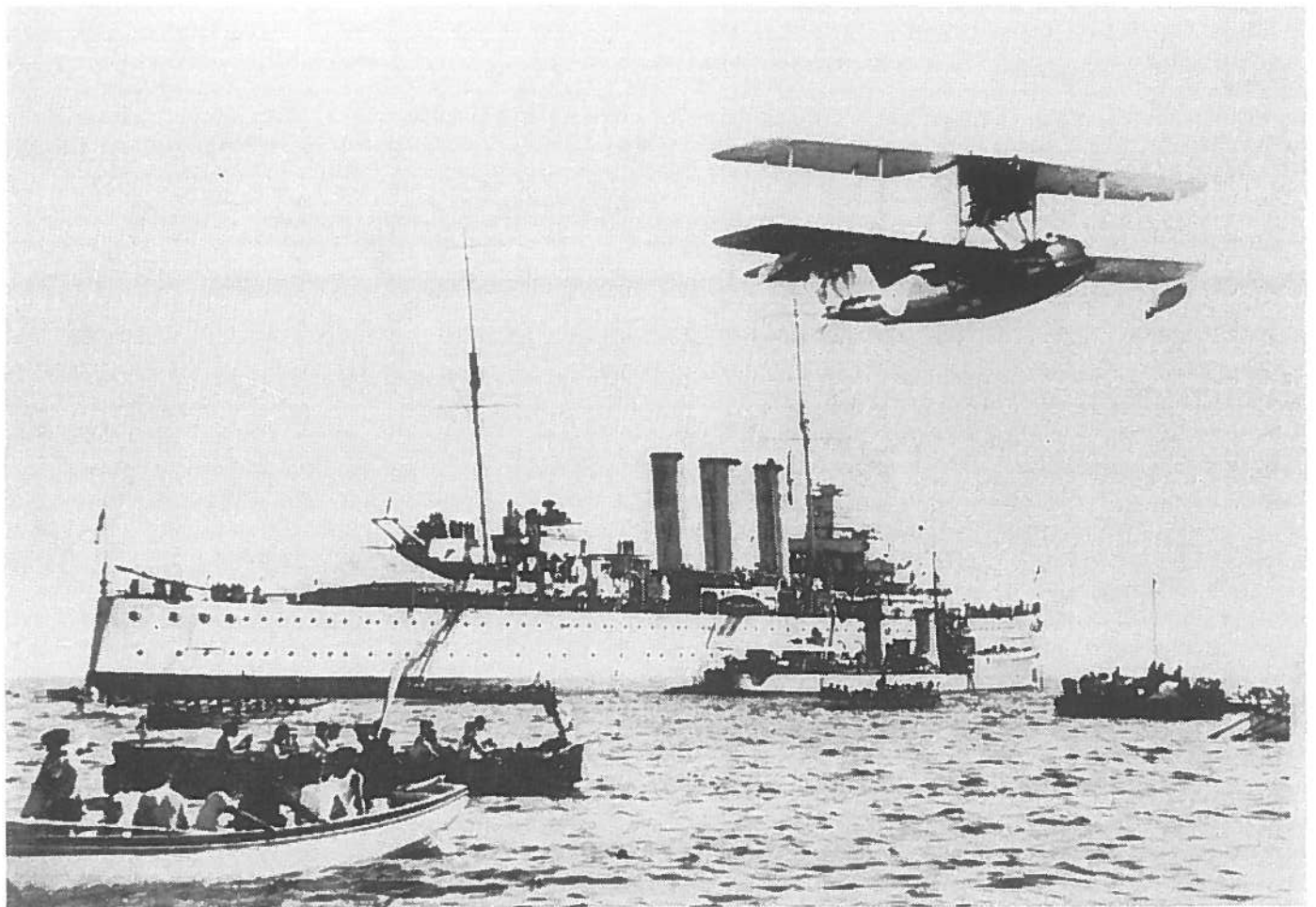


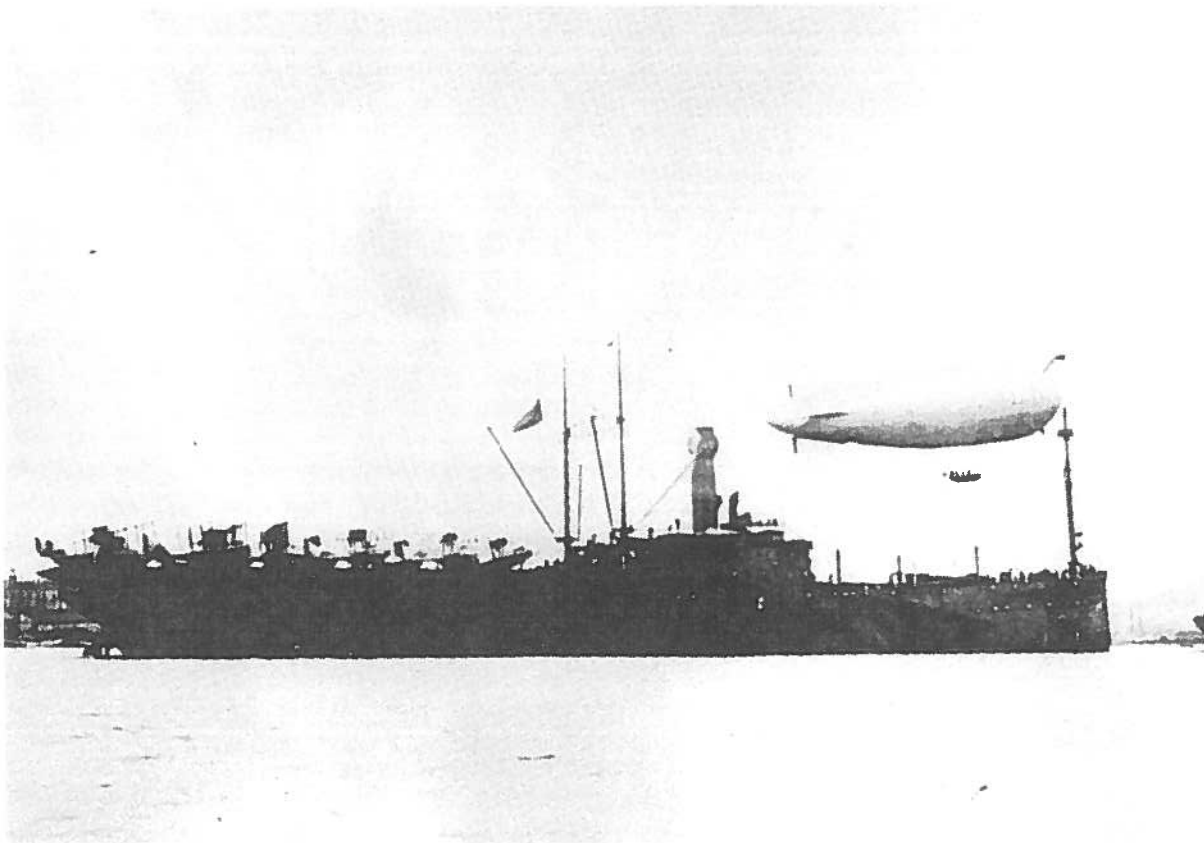
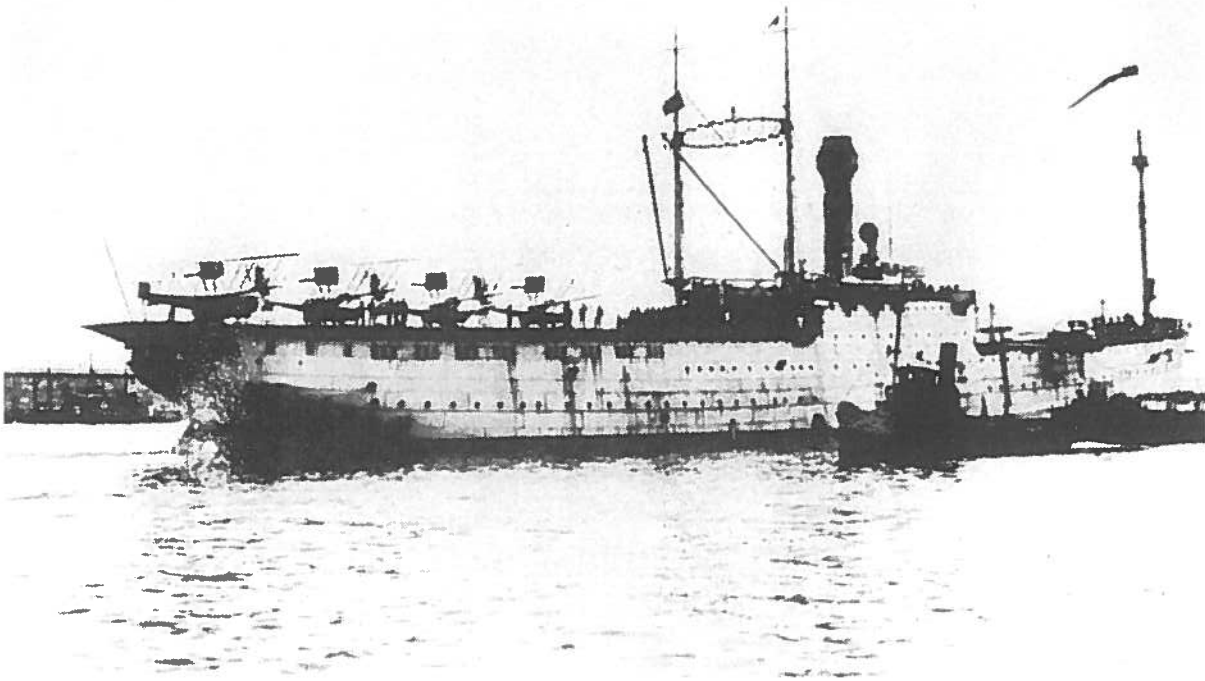
small air forces observer

US \$2.00



Vol 9 No 3 (35)

April 1985



small air forces observer

the newsletter of the Small Air Forces Clearing House

TABLE OF CONTENTS

Abstracts.....	62
Snippets from SEAR (Marselis).....	64
Shipboard Aviation of the Smaller Countries 1919-1939 (Layman).....	65
Nikol A-2.....	71
Reviews: AEROPLANI SIAI 1915-1935.....	72
T-34C Production List (Marselis).....	74
Mentors: Argentina, Peru, & Spain (Mirkovic).....	75
Beeches with the Uruguayan Armed Forces (Risseuw).....	75
Texans in Indonesia (Mirkovic).....	76
Reviews: Classic 1/72 Plane Breguet 14, Hanriot HD-1, & Sopwith 1-1/2 Strutter.....	77
Reviews: PSC 72 Shawrow Sh-2.....	78
Reviews: KPL Models SAI-207 & Pokker T.V.....	79
ALA Editorial.....	80
Reviews: LOCKHEED HECULES PRODUCTION LIST.....	80
Aircraft of the Spanish Civil War: PWS-10 (Massey).....	81
Israeli Aircraft: PT-17, T-6, C-46, B-17, & C-47 (Hourant).....	82
Israeli C-130 (Schmidl).....	86

SAFO EDITORIAL POLICY: The purpose of the SAFO is to "promote interest in the history and modeling of the a/c of the smaller countries". In support of this goal, the SAFO will publish articles on all aspects of aviation, both military and civil, from all periods of time and for all the smaller countries. (1) All manuscripts submitted by members will be published in the next available issue of the SAFO. And, (2) members are encouraged to sponsor subscriptions for organizations, libraries, individuals (especially those in countries where US funds are difficult to obtain).

SUBSCRIPTION RATE: Subscription to the SAFO is US \$ 7.00 for 4 issues per year via surface mail. For air mail delivery, add \$4.75 for Europe & Latin America, and \$8.25 for Asia, Africa, & Australia. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA.

SAFO is distributed in England by Midland Counties Publications, 24 The Hollow, Earl Shilton, Leicester LE9 7NA; and in the USA by Bill Dean Books, 166-41 Powells Cove Blvd., Whitestone, NY 11357.

BACK ISSUES: New subscriptions begin with all issues of the volume current at the time payment is received. If you desire otherwise, please specify issues desired. Back issues, when available, are \$1.50 each plus postage. Issues 1-12 & 17-22 are out of print, although Xerox copies are available at cost. For a list of back issues and their costs, send 2 1st class stamps (or 2 IRCs) to the editorial office.

COPYRIGHT AND LIABILITY: Copyright © 1985 Small Air Forces Clearing House. All rights reserved. The contents of this publication may not be reproduced in whole or in part without the written consent of the publisher. Every effort is made to verify the information published in this magazine. However, the opinions of the authors are not necessarily those of the publisher, and this periodical accepts no responsibility in connection with any liability which might develop as a result of articles published.

SMALL AIR FORCES OBSERVER (USPS 439-450) is published quarterly for \$7.00 per year by Small Air Forces Clearing House, 27965 Berwick Dr., Carmel, CA 93923. Second-class postage paid at Carmel Valley, CA 93924. **POSTMASTER:** Send address changes to Small Air Forces Clearing House, 27965 Berwick Dr., Carmel, CA 93923.

COVER COMMENTS: Aircraft that served aboard ships of the smaller countries between the two world wars are the theme of this issue. The feature article, "Sparrows among the Hawks" by R. D. Layman, begins on page 65. Other articles on this theme include: 1/72-scale drawings of the Polish Nikol A-2 (page 71), a review of AEROPLANI SIAI (page 72), and a drawing of an Argentine Fairey IIIF (page 80).

PHOTO CAPTIONS

Front Cover: A Seagull III from Albatross flying over HMAS Canberra, ca. 1929, while what appears to be a boat race or exercise is under way. One of the Australian Admiralty S-class destroyers is alongside the cruiser, which is not yet fitted with a catapult. (Royal Australian Navy photo, courtesy of Ross Gillett, via R. D. Layman.)

Top of Page 60: The Spanish seaplane/balloon/airship vessel Dedalo, flying a huge windsock from her mooring mast and carrying a deckload of Savoia flying boats. (Spanish Navy photo, courtesy of Michael Burgrss, via R. D. Layman.)

Bottom of Page 60: Another view of Dedalo, with one of the SCA airships hovering from the mooring mast. The aircraft appear to be a mixture of Savoia and Macchi flying boats. (Spanish Navy photo, courtesy of Michael Burgess, via R. D. Layman.)

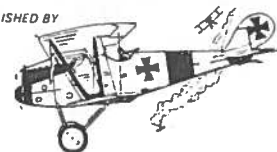
EDITORIAL: SAFO is still not back on schedule, but the present issue should be mailed early in July thereby bring it to within two months of its cover date. Response to my request for more feature articles resulted in a large package of drawings of small air force MiGs from Nick Waters. These should occupy several issues. If you have any schemes for unusual MiGs, especially from Africa, now is the time to submit them; there is still time to make them part of this series. I still need more feature articles, especially ones with well-researched text. Also needed are kit and book reviews as well as more modeling articles.

4 July 1985

WIND-SOCK

THE QUARTERLY NEWSLETTER FOR WORLD WAR ONE SCALE MODELLERS

COMPILED, WRITTEN AND PUBLISHED BY
RAY RIMELL
10 LONG VIEW,
CHILTERN PARK,
BERKHAMSTED,
HERTFORDSHIRE,
HP4 1BY UK



CONTENTS:

NEW KITS, PRODUCTS AND TRANSFERS
CONVERSION PROJECT
HINTS, TIPS AND IDEAS
COLOURS AND MARKINGS
KIT COLLECTORS' COLUMN
LATEST PUBLICATIONS

SUBSCRIPTION RATES

THE UK subscription rate for one year is £8.50 for four issues, a figure which also includes postage and packing. For readers in the USA, Canada, Australia and New Zealand the present rate is 12 dollars and 75 cents. Those readers requiring copies to be airmailed are asked to add the following:

USA/Canada	-	4 dollars
Australia/NZ	-	5 dollars
Europe	-	£1.50

All cheques, postal orders, etc., should be crossed and made payable to ALBATROSS PRODUCTIONS LTD. Readers are reminded that WIND-SOCK is not available from retail outlets and can only be obtained (by post) from Albatross Productions Ltd., 10 Long View, Chiltern Park Estate, Berkhamsted, Herts., HP4 1BY at the quoted subscription rates.

ARGENTINA

ALA (Aviacion Latinoamericana, Casilla de Correo no. 125, Sucural 28, 1428 Buenos Aires; 4 issues US\$ 7.00 in Latin America, \$11.00 in USA, Europe, & Africa, and \$13.00 all other countries.)

#9 (32 pages) "IA-63 Roll-Out" 3 pages including 3-view scale drawing and photo. "Brief Story of the Torpedo-Carrying Pucara" 5 pages including 4-view (top, bottom, port, & starboard) drawings and photo. "Military News" 5 pages of news from 23 services. (See additional information elsewhere in this issue.)

AUSTRALIA

APMA (Australian Plastic Modeller's Association, PO Box 51, Strathfield, N.S.W. 2135; 4 issues airmail \$18.00 Australian currency)

4/84 (32 pages) "Quantas Aircraft since 1921: Dellavilland DH.90 Dragonfly" 2 pages including one page of drawings of aircraft in camouflage. "Skyservant" 1/2-page drawing of Do.28D-2 of the Malawi Air Force. "Transparently Obvious: Improving the Clear Bits in Kits" 4 pages of useful tips. "Handley Page Halifax Variants" 3 pages of details including drawings. "Vengeance Mk.IV TT" one page with drawing of RAAF machine. "French Texans" one with 3 side-view drawings. "Miracle in Grey, Part 2" 3 pages with 2 pages of drawings of RAAF Mirages in grey camouflage.

IPMS(NSW) NEWS & VIEWS (IPMS/New South Wales, PO Box 637, Broadway, NSW 2007, AUSTRALIA)

1/85 (14 pages) "Fighter Squadrons of the RAAF in WWII: Part 2 - 451 Squadron Spitfires" 4 pages including 6 side-view drawings (VB/Trop BQ-K desert scheme, IX BQ-Y desert scheme, VIII BQ-M desert scheme, IX BQ-S medium sea grey & PRU blue, XVI NI-V temperate scheme, & FR XIV NI-K temperate scheme). "Aircraft of the Chinese Air Force - Part 3" one page including 2 side-view drawings (SB-2 & He-111A). "Indonesian T-6's" 2 pages including 3 side-view drawings (B-440 aluminum, B-410 dark green, & I-028 trainer yellow).

AUSTRIA

OFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Kannwegasse 1/15, A-1150, Wien)

1/85 (40 pages) "Josef Stefanitz" 6 pages including 1/72-scale 3-view drawings of Oeffag H (1916) and Lohner L16 (1915) flying boats. "Lampich NL XXII/36" 4 pages including 1/72-scale 3-view drawings of Lampich NL XXII 'Dienstnummer 436 und die Kennung OE-TAW'. Color postcard Bucker 133 OE-AKT. "He 112" 10 pages about the negotiations to obtain the He-112 for the Austrian Air Force (including one photo). "Cessna 182" 5 pages about the aircraft in the Austrian Air Force including three 1/72-scale 3-view drawings of 3A-AJ, 3A-AI, & OE-DBR.

PANORAMA (IPMS/AUSTRIA, Nordmanngasse 11-13/4/6, A-1210 Wien)

Nothing received since 1/1

BELGIUM

KIT (IPMS Belgium, Te'Couwelaarlei 103 bus 21, B-2100 Deurne; 4 issues for 450 Belgian francs)

#55 (38 pages) "Les Junkers 52 Belges" 9 pages including 8 photos, 3 pages of side-view drawings (7 aircraft), and individual aircraft histories. "Le Puma de la Bendarmie Belge" 15 pages including 2 photos, 6 pages of 1/72-scale drawings, 4 pages of drawings of details, kit reviews, and color equivalents.

#56 (38 pages) "Le T-33 a la Force Aerienne Belge" 25 pages including one color photo, 18 b&w photos, 4 pages of 1/72-scale drawings, 7 pages of drawings of details & ground equipment, and individual aircraft histories.

BRAZIL

EM ESCALA (IPMS-BRAZIL, Rua Arquias Cordeiro, 316 S/502, CEP 20770, Meier, RJ)

Nothing received since 3-4/84

CANADA

HIGH FLIGHT (Box 393, Stittsville, Ontario K0A 3G0; 6 issues for CAN \$15)

Nothing received since 3/4

RANDOM THOUGHTS (IPMS CANADA, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for \$12.00 in US, \$13.00 others)

16/6 (24 pages) "From the Distant Past ..." 2 one-page drawings of RCAF Siskin IIIA and Ford Trimotor. "Wellington MkII in 1/72" 2 pages article on converting the MATCHBOX Wellington to a MkII version with Merlin engines; includes 4 side-view drawings (LQ-D of 405 Sqn RCAF, EP-R of 104 Sqn, and SM-A & SM-I of 305 (Polish Sqn) and instruction on how to mould the engines from epoxy putty and latex moulds (most practical technique for reproducing a small number of parts I've seen). "Seaking Update (Again)" 4 pages including 4 photos and 3 side-view drawings of the Canadian CH-124 Seaking. "New Coast Guard Colour Scheme" 2 pages with 2 photos and port & starboard view of S-61N in new overall red with a bold diagonal white stripe. "Airfast Hu-15B" 1/2 page side-view drawing of Indonesian civil Albatros "PK-OAH".

CZECHOSLOVAKIA

LETETECVI + KOSMONAUTIKA (Available by trade from SAFCH members in Czechoslovakia.)

Nothing received since 3/84

DENMARK

NYT (IPMS DENMARK, c/o Kai Willadsen, Kastellet 54/322, 2100 Kobenhavn 0 (01) 12 94 51. 4 issue for 70 Dkr surface, 80 Dkr airmail)

#27 (26 pages) Colour sample of RDAF overall green; used since 1975 on such aircraft as C-130H, SAAB T-17, Hughes H-300, F-100, Draken, F-104, & C-47.

ENGLAND

MAGAZINE (IPMS ENGLAND, Flat 4, 18 Delancey St., London NW1 7NH; 6 issues for US \$20.00 + \$1.00 joining fee)

1/85 (28 pages) "Snowy Sea Kings" 3 pages including 10 photos of details of RAF aircraft. "Israeli Ouragans" 4 pages including one photo and 10 side-view drawings. "Phanton Pheature" 6 pages including 6 side-view drawings and 3 top- & bottom-view drawings of West German F-4s. "Building the F4K/M" 3 pages with 5 photos and drawings for combining the ESCI F4J and the MATCHBOX F4K/M. "Israeli Sabre" 2 pages with a one-page 2-view drawing. (A new format promises great things in the future for the IPMS MAGAZINE as they enter their 21st year.)

PLASTIC KIT CONSTRUCTOR (PKC, 22 Slayleigh Ave., Sheffield S10 3RB, South Yorkshire. USA/Canada: J.J. Daileda, 4314 West 238th St., Torrance, CA 90505.)

#7 (44 pages) "SAAB Drakens" 5 pages reviewing the 1/100-scale kits; includes drawings of a prototype aircraft. "Alpha Jets" 9 pages including reviews of the 1/72-scale kits, 4 side-view drawings (West German, Egyptian, Belgian, & French), and 1/72-scale 3-view drawing of Alpha Jet E. "Twin Otter" 4 pages including 2 photos of the British Antarctic Survey Twin Otter and 3-view drawings of Peruvian Air Force Twin Otter on floats. "F-16 Fighting Falcon" one page with side-view drawings of Norwegian F-16A/687 and F-16B/690.

WIND-SOCK (Albatros Productions Ltd., 10 Long View, Chiltern Park Estate, Berkhamsted, Herts., HP4 1BY ENGLAND; 4 issues \$12.74)

1/1 (40 pages) "A Pfalz from a Fokker" 4-page article on converting the REVELL 1/72-scale Fokker E-I into a Pfalz E-I 3-view drawing and 2 photos). "Colours and Markings: Pfalz D-III" 5 pages including one photo, top- & side-view drawings, and 2 colour chips. Other features are: "Kit Collectors' Column" 4-page review of the MERIT DH.2; "Latest Publications" 4 pages; "Hints, Tips and Ideas" 3 pages (simulating ribs & moulding cowlings); New Kits, Products and Transfers" 12 pages including descrip-

tion of the re-released of the AIRFIX Roland C-II & HP 0/400, ATKINS white-metal Fokker D.VIII, MERLIN Halberstadt D-II & Albatros W-4, PEGASUS Siemens Schuckert D-III (new kit) and Bristol M1C (Sopwith Dolphin & Junkers D-I next); RAREPLANE old Gotha; ROSEPLANE Martinsyde G-100 Elephant (Roland D-II, AW FK-8, & Le Pere LUSAC to come); CLASSIC PLANES (see review elsewhere in this issue), AIRFRAME Vicker FB5, and a Tummelisa O1 from Sweden. Altogether, the editor counts 30 new WWI kits for 1985.

FINLAND

MALLARI (IPMS FINLAND, PL 798, 00101 Helsinki 10; issues #49-52 US \$6.50, add \$1.00 for airmail and \$1.50 for personal bank cheque redemption)

Nothing received since #49.

FRANCE

LA VITRINE DU MAQUETISTE (IPMS FRANCE, 3 rue de l'Amiral Roussin 75015 Paris; 4 issues 60FF surface, 80FF air; back issues 12FF; "La Lettre de l'IPMS" 25FF.)

#21 (48 pages) "les Dornier Do 24 Hollandais - Part 1" 9 pages including 15 photos and one map. "La Securite Civile (suite et fin)" 10 pages including 14 color photos, 14 b&w photos, 2 side-view drawings of Trackers, DC-6B, CL-215, PA 23, PA 31, Alouette III, Catalina, & Dauphin.

GERMANY

MITTEILUNGEN (IPMS GERMANY, Oertzenweg 12b, 1000 Berlin 37; DM 42.00 Europe, DM 49.00 USA, DM 55.00 Japan, DM 61.00 Australia)

3-85 (30 pages) Review of AIRMODEL's 1/72-scale vacuum I-15/15bis.

4/85 (30 pages) "Kit Report" review of the WKmodels 1/72-scale vacuum kits of the Letov S-231 and He-70 (No address given for WKmodels; can any of our German members help?), and the Huma-Modell injection-moulded Klemm Kl.35.

ITALY

IL NOTIZIARIO (IPMS ITALY, CP 182, 41100 Modena Ferrovia)

2/84 (32 pages) "I Velivoli di Baracca: Nieuport Ni.11 & SPAD VII" 8 pages including 13 photos and a page of 1/72- and 1/48-scale drawings.

JP-4 (CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere)

1/85 (84 pages) "Col Secondo Prototipo in VBolo AMX la Sfida Italiana" 5 pages including 11 photos (mostly in color). "Yurom: Un Caccia Internazionale dell'est" 6 pages including 6 photos (color), scale 3-view drawing, and cutaway drawing of IAR-93B. "Il Romeo Ro.51" 3 pages including 8 photos.

2/85 (84 pages) Photos: Dubai MB.339 (color), Italian CL-215 '15-52', Columbia AF (SATENA) Turbo Porter, Moroccan C-130 'CNA-ON', Argentine Focke Wulf PG-396, and Thai Short 330. "FBA; Fate Bene Attenzione" 6 pages including 8 photos of SIAI-built FBA Tipo H floatplanes.

AEROFAN (Giorgio Apostolo, via Ampere 49, 20131 Milano, ITALY; 4 issues for US \$16.00; each issue contains a 2 page summary and photo captions in English)

Nothing received since 3-84

MALTA

MODELAID INTERNATIONAL (206 Old Bakery St., Valletta, Malta; 7 issues per year \$27.50 airmail)

#7 (32 pages) "Alcione" 9 pages including 18 photos, 5 color side-view drawings, and one page of detailed scale drawings. "Air War in the Med. - Beaufighters and Beau- forts Strike from Malta (May 1941 - Sept 1943)" 2 pages with 2 photos and color side-view drawing of beaufighter VI. "The Lockheed Star" 8 pages including 6 photos, 10 b&w side-view drawings, 3 color side-view drawings, one page of detailed scale drawings, and 3 cut-out cockpits

in 1/72 scale; (all USAF aircraft). "Supermarine Attacker" 4 pages including 2 photos, 5 b&w side view drawings (one Pakistan aircraft 'R4032'), one page of detailed scale drawings, and 3 cut-out cockpits in 1/72 scale.

SINGAPORE

SCALE PLASTIKS (Plastic Modellers Society Singapore, 32 Mangis Rd., Singapore 1542).

Nothing received since #1

SOUTH AFRICA

AFRICAN AIR REVIEW (AVIATION SOCIETY OF AFRICA, PO Box 1413, Alberton 1450; 4 issues for US \$12.00)

Nothing received since 7-9 84

SWITZERLAND

VIRUS PLASTICUS (IPMS SWITZERLAND, Olivenstr. 2, 9320, Arborn; 4 issues for Sfr 24)

3-4/84 (40 pages) "Le Mirage (5): L'Etrange Affaire des Mirage Suisses (4)" 5 pages with a one-page top-view drawing. "Fokker C.V" 7 pages including 3 side-view drawings and one 3-view drawing of the C.V in Swiss markings

USA

WWI AERO (Leonard Opdycke, 15 Crescent Rd., Poughkeepsie, NY 12601; 5 issues \$20)

#104 (98 pages) "Gotha GL.VII & GL.VIII" 7 pages including scale 3-view drawings and 13 photos including several of the Ukrainian GL.VII "Olena". "Die Flugmotor- en" 12 pages of scale drawings of German water-cooled aircraft engines (Mercedes 120 hp, 160 hp, 220 hp, 275 hp; Benz 150 hp, 200 hp, 500 hp; Argus 120 hp, 170 hp; NAG CIII 200 hp; Maybach 240 hp; Selve 280 hp). "Maxim" 18 pages including 28 photos and 5 pages of scale drawings of Maxim's aeronautical machines in the USA.

DIRTY PLASTIC (IPMS PHOENIX, 509 W. Camino Dr., Phoenix, AZ 85021; 4 issues for \$6.00.)

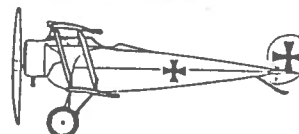
Spring 85 (20 pages) "The Yokosuka K5Y 'Willow'" 2 pages of 6 side-view drawings (all Japanese).

IPMS HAWAII (1650 Leha St., Honolulu, HI 96818; \$5.00 per year for mainlanders and \$6.00 for those overseas.)

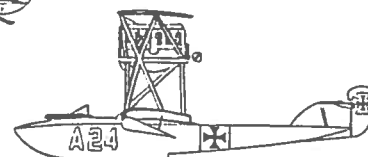
Nothing received since #14

PRI-FLY (IPMS Washington DC, c/o Carol Fleckenstein, 1810 Michael Faraday Dr., Suite 101, Reston, VA 22090; 4 issues \$6.00 for US, \$7.00 all others.)

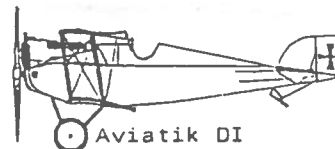
#54 (16 pages) "The Super Etendard" one page review of the Heller kit. "JNAF and IJAAF Aircraft Ordinance. Part 1. Aircraft Torpedoes" 2 pages with and page of drawings. "Japanese Army Twins in Profile" 4 pages including 2 pages with 9 side-view drawings. "Getting out in a Hurry; F-94 Starfire Ejection Seats" 2 pages including a page of drawings. "Cramped, Cool, & Comfortless - The Open Cockpit" one page with drawings of the cockpit of the Hansa-Brandenburg W-29 and Nieuport 28.



Fokker DII



Hansa-Brandenburg CC



Aviatik DI

Classic 1/72 Plane

SNIPPETS FROM SEAR

The following is a summary of information published in SOUTH EAST AIR REVIEW, 1st quarter 1985, compiled by Ben Marselis
23 Hacketts Lane
Ryrford, Woking, GU22 8PP
England.

Please note new address! I'll always be glad to provide anyone interested with a copy of information printed in SEAR or provide the editorial address.

Angola : they still appear to be using their Fiat G.91's. MIG21 CS26 was shot down in the last half of 1984.

Australia : a rundown of A4 Skyhawks is given in the January issue.

Bangladesh : Fouga CM170 200, probably ex WGAf, was seen preserved at Matur Rahman.

Brunei : Bell 212 AMDB-132 is c/n 31229 and AMDB-133 is c/n 31250.

Burkina Faso : several MIG21's were recently delivered.

Chile : Two F4Ch Beech D185's are 913 c/n A949 and 914 c/n A950. Navy D185's included A101 to A104 c/n's A1017, A1018, A1019, A1027 plus one. Army D185's were 520 to 526 c/n's A986, A988, A1021, A1022, A1024, A1025 and A1026 resp.

Denmark : A rundown of the F104G/TF104G/CF104 and CF104D is given in the January issue while the F100 commences in the February issue.

Ecuador : Finally 12 IAI Kfir's appear to have been delivered indeed. SF260W's were never delivered however and the order for EM832s66's was cancelled.

Greece : The problem with serials of AB205's/Bell UH1's is tackled in the February issue and we're getting closer to a solution.

Honduras : A576's 31071 and 10818 were seen with USAF recently, so are not candidates for recent deliveries.

Lebanon : a Bell 212 was lost 24Aug84. SA330L Fumas L902 and L907 were seen Oct84 with AB.212 L558.

Mexico : Two Beech B.55 Barons delivered in Dec83 were N6P152 c/n TC2448 and N6294B c/n TC2456.

Nepal : Skyvan RAN-23 c/n SH.1978 ex G-BJDC was delivered in Jun84.

Oman : The AB.205's were as follows : 701 to 708 were new a/c, 709 to 710 were a gift from Saudi Arabia, 711 to 721 were on loan from the IIAA (721 was ex 4-651) and 722 to 727 were new a/c.

Phillippines : a rundown of PAF Islanders appears in the February issue. The first Cal1 was serialled 233. F5A 65-10506 was seriously damaged 05Apr83.

Portugal : Three Falcon 20's were delivered, as follows

8101	c/n	211	ex	N30FE	del.	84
8102		215		N34FE		84
8103		217		N35FE		84

Rwanda : Nord 2501 177/9XR-GX "T-01" was seen Jul84 in France.

Saudi Arabia : The first of 10 RF5E Tigereyes were 84-194/197/198/199/200/202, all del. in 85.

Sierra Leone : The two AS355F's are 9L-LAX c/n 5287 and 9L-LAY c/n 5288, both are operated by the Ministry of Defence.

Tunisia : The current situation on F5's is as follows:

Y 92501/IE	82-0634	E	del.	NOV84
Y 92502/IA	82-0640	F		NOV84
Y 92503/IF	82-0635	E		NOV84
Y 92504/IB	82-0641	F		NOV84
Y 92505/IG	82-0637	E		FEB85
Y 92506/IC	82-0642	E		NOV84
Y 92507/IH	82-0638	E		NOV84
Y 92508/ID	82-0643	F		NOV84
Y 92509/II	82-0639	E		FEB85
Y 92511/IJ	82-0644	E		FEB85
Y 92513/IK	82-0645	E		MAR85
Y 92515/IL	82-0636	E		MAR85

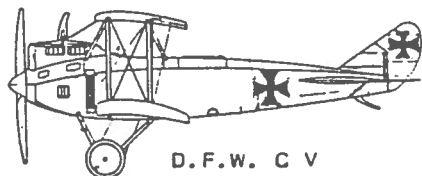
Note that some appear to be missing.

Turkey : The AT-11 serial range was 6811 to 6937 and the last 10 to be wfu in Oct83 were 6815, 6833, 6840, 6865, 6867, 6880, 6904, 6923, 6930 and 6933.

71 RF84F's were delivered to Turkey and the last ones to be wfu in Aug80 were 51-1860, 51-1917, 51-1924, 52-7234, 52-7301, 53-8722, 53-8758, 53-8759, 53-8764, 53-8765 and 53-8733.

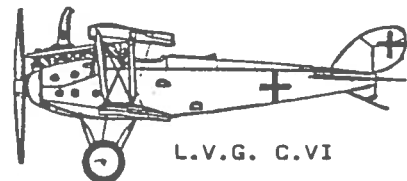
United Arab Emirates : Abu Dhabi's order for Mirage 2000 now totals 36, with option on 18 more.

Yugoslavia : Jastrebs seen at Pula Aug84 were 24213, 24256, 24262, 24263, 24284, 24291, 24304, 24410 along with Galeb 23166. Mil-8 12355/355 was dumped on the airfield.

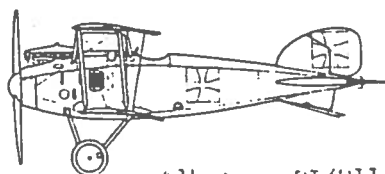


D.F.W. C.V

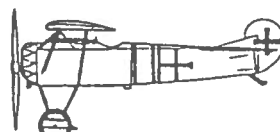
Classic $\frac{1}{72}$ Plane



L.V.G. C.VI



Albatros DI/D11



Fokker D.VIII



Hansa-Brandenburg CI

SPARROWS AMONG THE HAWKS

Shipboard Aviation of the Small Navies 1919 - 1939

(Editor's note: This is a revised and abridged version of an article that appeared in WARSHIP INTERNATIONAL, Vol. 21, No. 2, 1984, Copyright © International Naval Research Organization 1984. It is reprinted here by permission. The author is grateful to Georg von Rauch for additional information and for correction of errors.)

The story of the development of shipboard aviation between the world wars has been told repeatedly, but almost always from the standpoint of its major practitioners, Britain, America and Japan, and usually linked to the history of the flight-deck carrier. Its more modest role in the smaller navies has, in general, been ignored, although many of these fleets strove to develop a shipboard air arm within the limits imposed upon them. (1)

The most fundamental and obvious of those limits was economic. Financial restrictions ruled out the flight-deck carrier; the budget of a small navy could not be stretched to afford a vessel so costly to build, equip, man and maintain, desirable although such a ship might be considered.

Economics also accounts for the seemingly strange fact that many aircraft of the smaller navies were of foreign manufacture and/or design. The aerial needs of a small navy did not generate a significant market demand for such a highly specialized product as the naval aeroplane. Such a craft would be purchased in so small a number as to make the expense of designing, testing and manufacturing it a risky investment, even in a nation with a developed indigenous aircraft industry (which not all nations covered in this study possessed in the 1920s and '30s). It was therefore usually expedient for a small navy to obtain its aircraft from a foreign manufacturer that had suitable models in production (or could readily put them back into production), or have foreign designs of proven performance build domestically under license. This was also the case with the shipboard catapult, a machine with an even more restricted market; the only catapults seen on small-navy vessels in the 1930s were of British, German and Italian manufacture.

The economic factor became even more influential during the worldwide depression of the early '30s. As national budgets reeled under its impact, the flight-deck carrier became even more of an impossibility; even the seaplane tender turned into a luxury item, and it is noteworthy that not a single such vessel was placed on contract by a small navy after 1931.

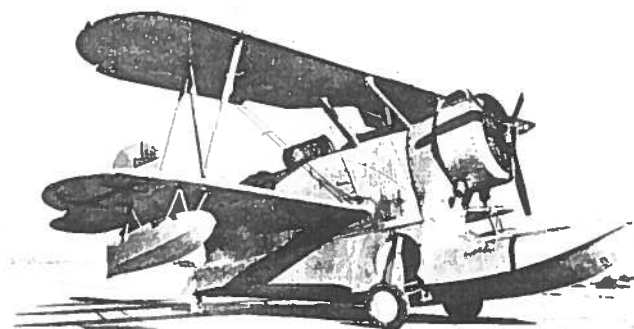
Economics aside, the development of shipboard aviation in the small navies, like naval aviation in general, was influenced by geography, potential enemies, naval tactical thinking, and national political and defense policy. A navy with overseas colonial possessions to protect, for instance, would find it useful to equip with aircraft its warships that would have to function beyond range of land-based planes. A navy designed purely for coastal defense would, on the other hand, find the shipboard airplane of far less use.

The fortunes of shipboard aviation also were affected in several nations by the establishment of independent air forces under which navies lost operational and administrative control of their aircraft and air personnel. Typically, the new air force put its naval commitment into a small-strength, shore- or harbor-based "cooperation" unit. In no case does there appear to have been a military or strategic need for the new service; the independent air forces were political creations generated by the claims of "air power" propagandists. Not all navies suffered by losing control of their air branches in this manner - some of the cooperation units performed very well - but all too often the new service became indifferent to naval needs.

As a result of all the foregoing factors, the pace, pattern and size of shipboard air components varied considerably from nation to nations. The one common denom-

inator was the seaplane, which in the absence of the flight-deck carrier was the only type of aircraft that could function from a ship. The total disappearance of the naval seaplane for the past three decades has often caused the importance accorded it between the world wars to be forgotten. But for most of that period it was regarded as a virtually equal partner of the carrier-based landplane, and during the 1920s it had not yet begun to lag so drastically behind the landplane in performance - a gap that was to start to doom it during World War II although it still played a useful role to the very end of that conflict.

For the smaller navies, then, shipboard aviation was a modest affair of seaplanes carried by warships and/or auxiliaries, only in a few instances by special vessels. Sometimes the ships were modified - from moderately to drastically - to suit them for carriage and operation of aircraft, but very often not. With that in mind, let us take a look at the aircraft carried by ships of the small navies and at the ships that carried them.



Argentine Grumman JR-2 Duck. For a detailed description of the operation of the Duck with the Argentine Navy, see SAFO #21. (Fred C. Dickey Jr.)

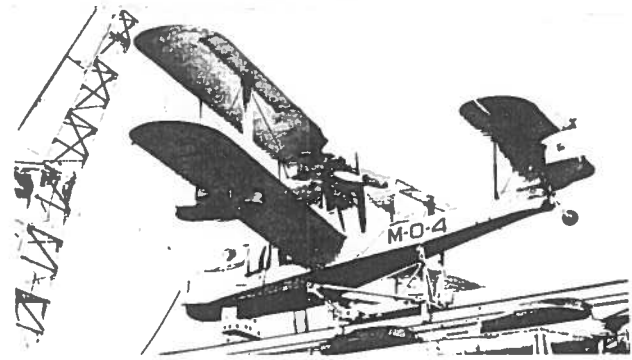
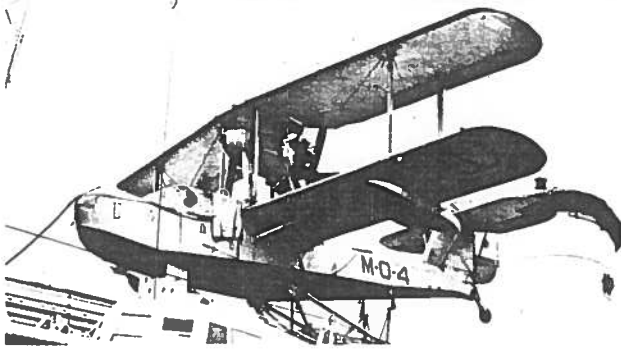
Argentina

In 1928 six British Fairey IIIF Mk. IIIM floatplanes were ordered for use on the battleships *Moreno* and *Rivadavia*, which carried them at times although lacking catapults. These aircraft were also operated occasionally by the Italian-built cruisers *Admirante Brown* and *Veinte Cinco de Mayo* after the vessels' delivery in 1931. The cruisers were originally equipped with fixed catapults on the forecastle in the manner of many Italian cruisers of the period, with aircraft accommodations on the deck below. Unlike the IIIFs so widely employed by the British Navy, the Argentine Faireys were powered by 450-hp Lorraine Dietrich engines. They were later reengined with 560-hp Armstrong Panther VI radials, changing their appearance.

These planes were unpopular, being unwieldy and slow, and at least once in 1932 *Admirante Brown* embarked an American Vought O2U-1A floatplane. Either or both cruisers also carried British Supermarine Walruses from time to time.

During modification of the cruisers at the Puerto Belgrano Naval Arsenal in 1943 the vessels' fixed catapults were removed and replaced by midship turntable catapults, the forecastle hanger being converted to crew quarters, and midship aircraft-handling cranes installed. Thereafter the cruiser carried American Grumman JR-2 amphibian from a group of eight purchased before World War II. Nominal aircraft capacity was two, but it appears that lack of accommodation space resulted in only one being carried normally.

The British-built cruiser La Argentina came equipped with a catapult and two Supermarine Seagull V amphibians (as the ubiquitous Walrus was first called) upon delivery in 1939. This equipment was retained until the 1950s, but was removed before the ship went into inactive reserve for eventual discard.



One of the two Argentine Seagull V aboard the cruiser La Argentina. Note the anchor insignia on the lower surface of the wing, the elevator in the national colors (blue-white-blue), and the penguin insignia immediately forward of the cockpit. (Fred C. Dickey Jr.)

Australia

By the end of World War I, three ships of the Royal Australian Navy serving with the British Grand Fleet were equipped with aircraft - the battle cruiser Australia and the light cruisers Melbourne and Sydney. (Earlier, the light cruiser Brisbane had carried a seaplane briefly while searching for the German commerce raider Wolf.) Their planes were left behind when the RAN ships returned to home waters postwar, pending formation of an Australian naval air arm.

In 1920 a British Avro 504K floatplane of the Australian Army Air Corps was experimentally carried by Australia, being transferred to Melbourne when the battle cruiser paid off. Difficulties of operation under tropical conditions caused the experiment to be abandoned in November 1920. The next year the first specifically Australian naval aircraft were acquired - six Fairey IIID floatplanes that went into service with the newly formed Royal Australian Air Force, successor of the Army Air Corps. One of these was operated by the ex-British sloop Geranium (transferred to the RAN in 1919) during survey work along the Great Barrier Reef.

The IIIDs were the aircraft the RAN seaplane carrier Albatross was originally designed to operate, and some of that ship's dimensions and internal arrangements were determined by their size and weight. Albatross, although designed by the Directorate of Naval Construction in Britain and utilizing many fittings purchased in Britain, was constructed in Australia. She was essentially a more modern version of the British Ark Royal of 1914 - roomier, better armed, better arranged for aircraft carriage and handling, although financial strictures prevented initial installation of the catapult she was designed to mount.

By the time the Albatross was commissioned, 23 January 1928, the Fairey floatplanes had been replaced by six Supermarine Seagull III flying boats, and these formed the new vessel's complement. One similar plane, the Wackett Widgeon, was also embarked briefly for trials in 1929. Although three more Seagull IIIs were acquired later, by 1931 their deteriorating performance made it apparent that a replacement was needed; in the interim Albatross operated only four of them.

No replacement aircraft had arrived by 1932, when, for financial reasons, Albatross was placed in reserve at Sydney, where she remained for the next five years. Her Seagulls were transferred to the heavy cruisers Australia and Canberra, which still lacked catapults and had to handle them by crane.

Albatross was not entirely inactive during her reserve period, but served as a maintenance, fueling and mooring base for seaplanes in Sydney harbor. In early 1936, as a preliminary to recommissioning, she was finally fitted with a catapult and with it carried out trials of the Supermarine Seagull V (later called the Walrus). RAN requirements reportedly figured in the design of this aircraft, 24 of which were ordered by Australia soon after

the prototype first flew in 1933. Seagull Vs replaced the Seagull IIIs on Australia and Canberra after the cruiser were equipped with catapults in 1935 and 1936 respectively.

Although six Seagull Vs were assigned to Albatross, her proposed recommissioning was abandoned and she was transferred to the Royal Navy in part payment for the light cruiser Apollo, renamed Hobart in the RAN. The catapult-equipped Hobart, along with light cruisers Sydney (ex-Phaeton) and Perth (ex-Amphion) all carried single Seagull Vs after their transfer to Australia from the Royal Navy.

Although designed to accommodate nine aircraft, Albatross never carried more than six while in Australian service; not until early 1942, while serving with the RN, did she embark a full complement of nine.

Canada

The Royal Canadian Navy lacked an air arm from 1919, when the Royal Canadian Naval Air Service established the previous year was disbanded, until after World War II, and did not possess an aviation vessel until the aircraft carrier Warrior was transferred from the Royal Navy in 1946.

In 1934, however, Canadian attention was attracted to a proposed small but fast seaplane carrier designed by John I. Thornycroft & Co. as a private venture. This was a 3000-ton, 28-knot vessel to be armed with three 4.7-inch guns and four light AA guns and to carry seven seaplanes. Aircraft were to be launched from a forecastle catapult and recovered either by an aft crane or by Hein mat drawn up an inclined ramp reaching to the waterline at the extreme stern. Plans for this vessel were requested by the Canadian navy's chief of staff, but lack of funds ruled out any serious consideration of construction.

Chile

Among the small number of aircraft acquired by Chile's Servicio de Aviacion Naval soon after its establishment in 1919 were British Short 184 and Sopwith Baby floatplanes, but a report in Brassey's that one of the Shorts was embarked on battleship *Admirante Latorre* in the 1920s for experiments with aerial spotting for gunfire has been denied. However, the old armored-cruiser General O'Higgins did carry one or more of the Babies briefly.

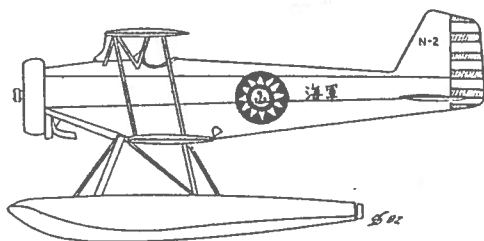
A turntable catapult was mounted on *Admirante Latorre*'s quarterdeck during her 1929-31 modernization in Great Britain, and the battleship subsequently carried a Fairey IIIF, four of which were stationed at Quintero, the naval air arms's main base, for fleet cooperation duties with the Chilean Air Force established in 1930. The catapult was removed before the battleship was discarded after World War II. Earlier, one of the IIIFs was carried by the submarine depot ship *Araucano*.

China

China possessed two small seaplane carriers during the 1930s - the Teh Sheng and Wei Shang, 932-ton gunboats launched in 1922 and converted ca. 1929-30 by removal of aft superstructure to provide an accommodation deck for two aircraft to be handled by crane. Neither, however, embarked an aircraft before both were sunk as blockships in the Yangtse River on 18 November 1937 during the fighting with Japan.

The small cruisers Ning Hai and Ping Hai, completed in 1932 and 1936 in Japan and at Shanghai respectively, featured hangers for accommodation of two seaplanes, but neither ever carried aircraft, either in Chinese service or after being taken over by Japan.

Had any of these four vessels operated an aircraft, it would have been a small seaplane designed in 1933 by the aircraft division of the Kiang Nan Dock Co. in Shanghai. Designated the Ning Hai No. 2 Reconnaissance Seaplane, it was a single-seat folding-wing unarmed float plane, powered by a 130-hp Hsin-Feng seven cylinder radial engine. It had a wingspan of 30 ft 2 in., a speed of 104 mph, an endurance of four hours, and a range of 288 miles.



The Chinese Ning Hai No.2 floatplane designed for use by seaplane carriers and cruisers. (Drawing by D. Y. Louie)

Denmark

Aircraft occasionally used aboard ship by the Royal Danish Navy during the 1920s and '30s were twin-float monoplanes of the type designed by Ernst Heinkel for the German navy during World War I. Six of these, Hansa-Brandenburg W.29s given the Danish designation HM.I (Hydro-Monoplane No. 1), plus a single German Friedrichshafen FF.29 biplane, formed the 1st Luftflotilla (Air Flotilla) organized in 1926 for naval cooperation work. The survey ship Willemoes was sometimes used as a tender for these planes, and one HM.1 was carried by the coast defense ship Peder Skram.

In 1928 the Heinkel He.8 began to replace the HM.1s, the last two of which were retired in 1930. The He.8, with the Danish designation HM.II, was an improved, modernized version of the basic W.29 design. Twenty-two of them were acquired during 1928-38. The 1st Luftflotilla operated six to nine HM.IIs, occasionally tended by the fishery patrol vessel Beskytteren.

From 1934 to 1938 two to six Heinkels were employed in exploration and survey work in Greenland, basing on the schooners Gustav Holm and Godthab. During 1937-38 the fishery protection/survey ship Hvidbjørnen carried an HM.II for photographic surveys of Icelandic waters, and another was carried by Ingolf, a similar ship.

The naval air arm was unable to offer any resistance to the German invasion of 1940; its aircraft were placed in storage in Copenhagen, where they were destroyed by Danish saboteurs in 1943.

Netherlands

The Royal Netherlands Navy's Marine Luchtvaartdienst (MDL) was the largest naval air arm possessed by a minor power during the interwar years, nearly rivaling the services of some major navies in number of aircraft (in fact, in number of shipboard aircraft during this period it far exceeded the Soviet Union).

The MLD was officially established in 1917, but the Dutch navy had begun acquiring aircraft and training aviators some years earlier. One of the first four Dutch

naval officers to obtain a pilot's license in 1915 was Karel Doorman, later the tragic hero of the Battle of the Java Sea. Unlike most other smaller navies, that of the Netherlands was eventually able to operate almost entirely indigenous aircraft, thanks to the return to his native land after World War I of aeronautical engineer-designer Anthony Fokker.

The first seaplane to be operated by the MLD in quantity, however, was not a Fokker but another of Ernst Heinkel's wartime designs, the Hansa-Brandenburg W.12, a twin-float biplane. It was built under license in Holland by the Van Berkel firm, designated the Van Berkel WA. Production of an eventual 40 of these began in 1919; 20 of them served in home water and 20 in the Dutch East Indies.

Despite the predominance of the WA, the first major Dutch warships to carry aircraft, the light cruisers Java and Sumatra, each operated a pair of British Fairey IIID floatplanes acquired in 1924. Their floats were too fragile, however, to stand the heavy swells of the Indies, and after 1926 they were replaced on the cruisers by Fokker C.VIIW floatplanes, the first 12 of which were ordered that year. Thereafter the C.VIIW began to replace the WA, although the last Van Berkel was not phased out until 1932.

From the early 1920s to the late 1930s a number of Dutch warships carried seaplanes - either WAs, C.VIIWs or both in succession - from time to time. These vessels included (with the number of aircraft carried in parentheses) the coast defense ship Jacob van Heemskerck (two), training ship Hertog Hendrick (two), submarine depot ship Pelikaan (two to four), minelayer Serdang (two to three), gunboats Flora and Soemba (one each), minelayer Rigel and Willen van der Zaan (one each) and supply ship Zuiderkruis (one). The Serdang's sisters, Assahan and Siboga, occasionally served as seaplane tenders before they were stricken prior to World War II.

After the destroyer Bulhond experimentally embarked a WA in the '20s, the Dutch navy outfitted an entire class of DDs with aircraft - the eight-ship Evertsen class launched between 1926 and 1930: Evertsen, Piet Hein, Van Ghent, Banckert, Van Galen, Van Nes and Witte de With. Each carried a seaplane, initially a C.VIIW, on a light deck aft of the second bank of torpedo tubes, handling it with a derrick on the mainmast. The purpose was to provide the destroyers with means of aerial reconnaissance while operating independently, but the concept was abandoned before the Japanese attack on the Indies and the aircraft removed, the decks they had occupied being used instead for boat stowage. Earlier, however, arrangements for aircraft carriage and handling were included in the design of the four destroyers of the Isaac Sweers class, the name ship of which was laid down in 1938. These provisions were eliminated in the only two vessels of the class to reach completion - Isaac Sweers herself when she finished fitting out in Britain and Gerard Callenburgh, completed by Germany as ZH 1.

The C.VIIW was succeeded in Dutch shipboard service by an improved Fokker floatplane, the C.XIW, 14 of which entered service in 1938. Two C.XIWs were carried by the light cruiser De Ruyter. This was the only Dutch warship to have a catapult - a German Heinkel model. Catapults were included in the original design of the cruisers De Zeven Provinciën and Eendracht, but they were omitted as outmoded when the vessels were completed to a differing design after World War II. Plans for the proposed battle cruisers of 1939-40 also included catapults.

The light cruiser Tromp carried a single C.VIX, handled by crane, but use of the aircraft was abandoned early in World War II. Tromp's sister, Jacob van Heemskerck (not to be confused with the coast defense ship of the same name rechristened Imjden in 1939), was to have this same arrangement, but the aircraft was omitted when she was completed as an anti-aircraft cruiser after being towed to Britain in 1940.

With the demise of its seaplanes, Dutch shipboard aviation languished during World War II, although Dutch aircrews manned the British merchant aircraft carriers Gardila and Macoma, converted in 1944. The only other non-

inally Dutch vessels that might be said to have had an aeronautical association were five barrage balloon boats, former fishing craft, that operated in British waters - the Cleon, Dourswold, De Hoop, Herdis and Thora.

In 1948 the Royal Netherlands Navy finally received its first true aviation vessel, the aircraft carrier *Venerable* purchased from Britain and appropriately renamed *Karl Doorman*.

New Zealand

The catapult-equipped light cruisers *Achilles* and *Leander*, lent by the Royal Navy, each carried a single *Supermarine Walrus* in 1939.

Poland

In the early 1930s the Polish navy proposed to equip new warships to be built abroad with aircraft. These were the minelayer/training ship *Gryf*, constructed in France, and at least one of the two British-built *Grom*-class destroyers. The minelayer, and perhaps one or both of the destroyers, was to have a catapult.

Proposals for both a catapult and a light flying boat suitable for it were submitted in August 1934 by Jerzy Nikol, a private aeronautical engineer. Plans for inclusion of a catapult were abandoned before the new ships were completed, but reportedly not before space for one had been incorporated into the *Gryf*'s design to the detriment of engine room layout that may have resulted in a drop in design speed.

Construction of the aircraft, however, begun in 1935 and the prototype flew in March 1939. Designated the *Nikol A-2*, it was a two-seat pusher-engine monoplane amphibian, reported to have had "admirable handling characteristics in the air and the water". It is unclear whether the *A-2* was still intended for shipboard use in 1939, but in any event the single example was destroyed during the German invasion later that year; there are varying versions of its loss.

Although Poland never possessed an aviation vessel, a small carrier was included in a proposed naval construction program drawn up for the Geneva Conference of 1936. Its sketchy particulars are reported as 4500 tons displacement with eight 6-inch guns and a speed of 35 knots. Like other ships of that program, the carrier was purely a paper project - apparently intended to give Poland some political weight at the conference - and it is unlikely that any serious design work on it was ever undertaken.

Portugal

Portugal's *Aviacao Naval*, although employing seaplanes primarily, did not operate aircraft from shipboard until nearly two decades after its formation in 1917. Had economic factors not intervened, however, the Portuguese navy might have possessed a seaplane carrier the equal of Australia's *Albatross*.

Such a ship was included in a 10-year naval construction program authorized in a decree issued by the Council of Ministers on 17 July 1930. The carrier's specifications included a complement of 12 aircraft, six of them operational and accommodated in a topside hanger, six stowed in reserve. The ship was to mount a catapult, have an economical cruising speed of 14 knots and be capable of 10,000 nautical miles at 10 knots. Armament was to be four 4.7-inch (120-mm) or 5-inch (127-mm) guns (the caliber to be determined by decisions in a destroyer program proceeding in parallel) with 200 rounds per gun; four 3-inch (76-mm) 50-caliber with 400 rpg and four 40-mm AA pompoms with 1000 rpg. The vessel was to carry 50 to 80 tons of aviation gasoline, three to five tons of aero engine oil, 500 aircraft bombs and 200,000 rounds of aircraft machine gun ammunition.

The aircraft were to be folding-wing "hydroplanes" (i.e., seaplanes) fitted with "double machine guns", cameras and radio, and capable of carrying two to four 100-pound bombs.

The ship's specifications indicated that, like the *Albatross*, it would have been essentially an up-to-date version of Britain's 1914 *Ark Royal*. There are hints that it would have possessed the long aircraft-handling forecandle of those vessels.

It is difficult to reconcile the aircraft specifications with any planes then possessed by the *Aviacao Naval*, but they are vague enough to apply to any number of naval aircraft then available in the world market and doubtless would have been filled by foreign purchase. However, at this time the Portuguese navy had eight French *CAMS 36A* amphibians and six Italian *Macchi M.18* flying boats capable of shipboard use.

On 2 December 1930 the Portuguese Ministry of Marine issued requests for bids on vessels of the initial installment of the construction program, which besides the carrier included two submarines and two "second-class scout cruisers" (actually sloops or gunboats), with a deadline for receipt of 2 February 1931. The Italian firm of *Cantieri del Adriatico*, *Monfalcone*, was awarded the carrier contract. In September 1931 it was announced that the vessel was to be named *Sacadura Cabral*, honoring a premiere Portuguese naval aviator killed in a crash in 1924 soon after having made a record-setting flight from Lisbon to Rio de Janeiro.

The Italian yard worked up characteristics of the carrier, which were announced as displacement of 5100 tons (condition not stated), dimensions of 407 by 57 ft (124 by 17.5 m), four Yarrow watertube boilers and geared turbines yielding 14,000 hp for a maximum of 22 knots. The armament apparently was still in a state of flux, for the contract reserved the Portuguese right to have 6-inch guns substituted for the smaller-calibre main battery, the design to be structurally compatible with either weapon.

Unfortunately, the contract also stipulated that the construction price was to be paid in British pounds sterling, and a sudden fall in the pound's value in early 1932 caused the shipbuilder to rescind the agreement. Thus, once again, the pernicious influence of world economic conditions on shipboard aviation was demonstrated.

Nevertheless, the ships including the carrier were again put up for bid, with a deadline for submission of 8 June 1932. Offers reportedly were made by British, Italian, French, Dutch and Spanish builders, but the deadline was allowed to pass without the award of a contract for the carrier. Finally, on 3 December 1932 the Portuguese government decided to abandon all consideration of a seaplane carrier. (2)

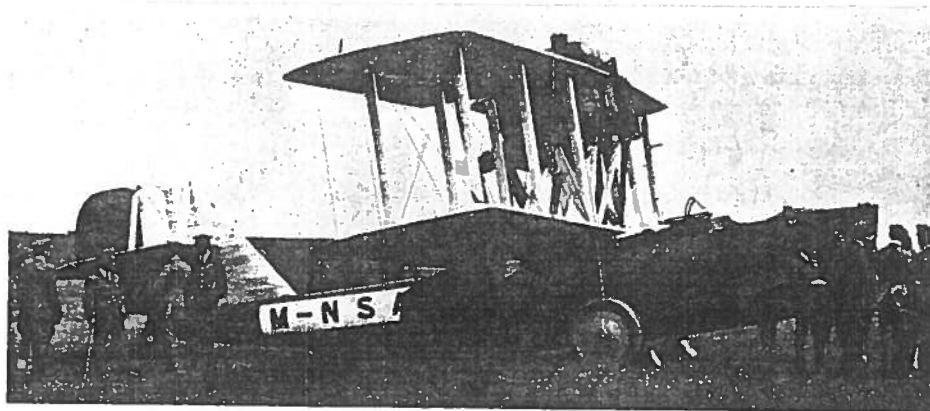
Consequently, the only Portuguese naval aircraft to see shipboard use were two British *Hawker Osprey III* reconnaissance-fighter floatplanes acquired in 1935 to equip the new sloops *Alfonso de Albuquerque* and *Bartolomeu Dias*. (Six other *Ospreys* were purchased later for harbor-based operations.) The sloops had been ordered from the Italian firm of *Odero-Terni-Orlando*, but their contract had been canceled at the same time as that for *Sacadura Cabral* and probably for the same reason. They were re-contracted to a British builder, *R & W Hawthorn, Leslie & Co*. This firm modified their design, so that it is unclear whether provision for aircraft aboard them was originally intended. Use of the *Ospreys* was abandoned long before the sloops reached the end of their service lives.

Spain

Spain's *Aeronautica Navale* had the distinction of being the first air arm of a minor navy to boast of an aviation vessel between the world wars, and the ship was the only one of its kind to take part in combat during that period.

This vessel was one of six German merchantmen interned in Spain during World War I that were ceded to Spain postwar in partial reparation for mercantile losses. They were given the interim designations *Espana* No. 1 through *Espana* No. 6. No. 6, the former *Neunfels* built in Britain in 1901, was turned over to the Spanish navy and rebuilt in Barcelona as a seaplane-balloon carrier, emerging in May, 1922, with the name *Dedalo* in tribute to the legendary originator of human flight.

Dedalo was well and ingeniously equipped for her new role, with a seaplane-handling deck aft above a hanger deck. Her aircraft were handled by booms from parallel masts just aft of the single funnel. The midship superstructure housed a hydrogen plant for two captive kite balloons. The most unusual feature was a tall airship



One of the 12 Supermarine Scarab amphibian flying boats - probably the first one, still bearing its civilian registration - purchased in 1924 to equip the Spanish Dedalo. Powered by a 360-hp Rolls-Royce Eagle IX engine, the Scarab had a crew of three, a wingspan of 46 ft, and a speed of 93 mph. It was armed with on machine gun and could carry a 1000-lb bomb load. In an unusual configuration, the gunner's position was placed behind the pilot's cockpit. (Author's collection)

mooring mast at the extreme bow. This could be, and was, utilized by the small naval airships SCA.1 and SCA.2. Built in 1922, these were 130 ft long and had a gas volume of 53,000 cubic feet. Dedalo thus shared with the USS Patoka the distinction of being the only surface vessels ever specifically equipped for mooring of airships.

Dedalo nominal aircraft capacity was 25, but that figure probably applied to the number that could be transported non-operationally; photos indicate that no more than six to eight seaplanes could be ranged on the aircraft deck. Her aircraft were initially Italian Savoia S.16 and Macchi M.18 flying boats, but these were replaced in 1924 by British Supermarine Scarab amphibian flying boats. Twelve of these were purchased that year. Dedalo proceeding to Southampton to embark them.

While Dedalo was the Spanish navy's only mobile aviation vessel, two ancient warship were utilized as harbor-bound seaplane tenders and supply ships - the cruiser Rio de la Plata and destroyer Audaz (sister of two vessels sunk at the Battle of Santiago in 1898). Together with a pontoon-like barge named Cocodrilo used for the same purpose, they were permanently moored to a dock at the Barcelona naval air station.

Dedalo was among the ships covering the Spanish troop landing at Alhucemas Bay in Morocco on 3 September 1925, at the start of the Franco-Spanish campaign against Abdel Krim's short-lived "Republic of the Rif". Her Scarabs flew reconnaissance, fire-spotting and bombing missions during the operations that led to the capture of Ajir on 2 October. The two airships also took part, reportedly basing on Dedalo between flights, and her kits balloons may also have been used.

Although Dedalo's planes were credited with useful work at Alhucemas, they were often hampered by heavy seas that prevented takeoff, pointing up the restrictions suffered by an aviation vessel lacking either catapult or flight deck. Consequently, the ship became almost entirely inactive upon her return to Spain. On 7 March 1934, however, she took part in an experiment with significance for the future when Juan de la Cierva, inventor of the Autogiro, made a landing on and takeoff from her deck in one of his craft at Valencia. This, plus earlier land-based demonstration flights in which naval officers were carried as observers, led the Spanish navy to acquire two Cierva C.30s and to dispatch six officers to Britain for Autogiro flight training.

Both rotary-wing craft were used successfully by government forces during the suppression of the Asturias uprising in October, 1934. Both were still in service when the civil war began in July, 1936, but saw no operation use - probably because their pilots were killed early in the upheaval.

The outbreak of the civil war prevented the scheduled breaking up of Dedalo. Although in Republican hands, she remained inactive during the conflict, tied up at Sangunto, where she was damaged by aerial bombing and where she was found when the victorious Nationalists entered the port on 29 March 1939. She was towed to Valencia for scrapping, but broke in two and sank before work could begin. The wreckage was blown up to clear the harbor, and Dedalo was officially stricken on 1 March 1940. Her

name was perpetuated with the rechristening of the US carrier Cabot, transferred to Spain in 1967 for use - interestingly enough in view of the 1934 experiment - as a helicopter carrier.

The civil war saw no use of shipboard aviation by either side, for although catapults and aircraft were included in the design of the heavy cruisers Canarias and Baleares, the British-ordered catapults had not arrived when fitting-out was hastily completed by the Nationalists at El Ferrol.

Baleares was lost in 1938, and continued plans to fit Canarias with a catapult were abandoned when she finally underwent modernization during 1952-53. Earlier, however, a catapult was mounted on the light cruiser Miguel de Cervantes during her 1940-46 reconstruction, and this vessel carried a German Heinkel He.114 floatplane until the 1950s.

Sweden

The Royal Swedish Navy was one of the world's first to operate a specialized aeronautical vessel on a permanent basis - a balloon barge built in 1905 that remained in limited service until the 1920s - and displayed a progressive interest in aviation from an early period. It received its first airplane, a Swedish-built French Bleriot, in 1913 as a donation from a wealthy brewery owner, and its first seaplane, a French float Nieuport, the same year, also a gift. By 1917 similar donations by individuals or organizations had given the navy 14 planes, mostly single examples of Swedish-built foreign types although including a few floatplanes designed by the pioneer Swedish aero engineer Enoch Thulin.

The formal organization of a naval air arm in 1919 was followed by the acquisition of a few German Friedrichshafen float biplanes of the FF series. Beginning in 1923 these were supplemented and eventually superseded by Hansa-Brandenburg twin-float monoplanes and similar later Heinkel types based on the wartime W.29-W.33 designs. Between 1923 and 1937 nearly 50 aircraft of this basic design entered service, many of them built under license by Svenska Aero AB, under the Swedish designation S.1, S.2, S.3, S.4 and S.5A through S.5D. "S" stood for spaningsflygplan (reconnaissance airplane) and the differing designations referred mainly to engine types. A few of these remained on strength until 1945.

The fact that these were seaplanes, however, did not connote naval usage for all of them; most were assigned to independent operation under the Swedish air force (Flygväpnet) established in 1926, which found seaplanes useful for work from harbors or lakes. On the other hand, creation of an air force had little original adverse effect on the navy, for a specially naval air wing (designated F.2) was formed and there was strong naval representation in the higher ranks and administration of the new service.

Numbers of foreign aircraft were acquired before World War II, including other Heinkel models and various Dutch, British and Italian types. During 1939-40 these purchases included 12 Heinkel He.115 twin-engine float monoplanes for use as torpedo planes under the Swedish designation T.2 (one was destroyed shortly after delivery)

and 12 Heinkel He.114 single-engine float biplanes (Swedish designation S.12).

The Swedish navy's first seaplane tender was the old depot ship Jacob Bagge, a former torpedo gunboat dating from 1898. She served in this role from 1929 to 1936, with only slight modifications including removal of the aft 4.7-inch gun to permit hoisting aboard of a seaplane for repair or maintenance.

A study of the desirability and feasibility of constructing a specialized aviation vessel began in 1925. Originally this was conceived as a pure seaplane or air-plane carrier, but the idea was soon modified to encompass what was considered a more useful vessel - a combination of cruiser and seaplane carrier. Construction of such a ship was authorized in May 1927 with an appropriation of 16.5 million kroner (\$4,422,000) but this sum was found insufficient for the original design. Consequently, the design was scaled down to reduce costs, the modifications including placing two main battery guns in casemates instead of a third turret and elimination of one of the two proposed catapults (although it has also been stated that technical factors caused the latter change). The result was the unique Gotland, contracted in 1930 and commissioned in 1934. She is fully described in WI No. 3, 1976.

Meanwhile, the old coast defense ship Dristigheten, nearing the end of her officially decreed service life, was converted into a seaplane carrier/trainer during 1928-29 after authorization in 1927. Her main and secondary batteries were removed, she was rearmed entirely with AA guns, and a seaplane deck and crane were installed aft. Her renovation is described in WI No. 1, 1978. A proposal that the still older coast defense ships Oden and Thor be similarly converted was not acted upon, probably for financial reasons.

Dristigheten could carry no more than three aircraft, but she was able to supply and maintain a greater number. Her original complement was three S.5 (He.5S) seaplanes; later she carried one Heinkel HD.19 reconnaissance-fighter floatplane (Swedish designation J.4) and one Heinkel HD.16 float torpedo plane (Swedish designation T.1). The large dimensions of the T.1 necessitated the reduction in aerial complement. Still later she served as a harbor tender for the T.2 (He.115) types, remaining in aviation service until 1944. Decommissioned in 1947, she was used as a target ship and finally sold for scrapping in 1961.

For use by Gotland, a new type of aircraft entered Swedish service - the British Hawker Osprey reconnaissance fighter, a twin-float biplane. Unlike the British and Portuguese Ospreys, which were powered by in-line liquid-cooled engines, Gotland's had Swedish-built Pegasus air-cooled radials. Her catapult was a German Heinkel model. Although she was designed to accommodate up to 11 aircraft, budgetary restrictions resulted in only six Ospreys being acquired for her.

Shortly after Gotland's completion the separation of the Swedish navy and air force became total when in 1936 continued political agitation for a truly independent air service brought about a drastic reorganization of the Flygväpnet. Under this restructuring the naval air wing was reduced to a "cooperation" unit with a projected strength of 32 planes.

Gotland's diminishing value as a seaplane carrier became evident in World War II, as ship-based float-planes became increasingly inferior in all categories of performance to land-based aircraft. Consequently, she was stripped of her aviation equipment and rearmed as an anti-aircraft cruiser during 1943-44. She was again rearmament and fully modernized during 1953-54 to serve as a training ship, a role she performed until stricken in 1962.

Inferior although seaplanes might be to landplanes, they were still useful for coastal patrol and associated duties, so to supplement its tenders, the Swedish navy in March 1940 requisitioned the 1235-GMT merchantman Rane of the Stockholm Rederi AB Svea. She was converted to an auxiliary seaplane tender at Malmo, work being completed 25 June, 1940. Like Jacob Bagge, she was not a true seaplane carrier, but aircraft could be hoisted aboard for

repair and maintenance performed from a workshop fitted in the aft cargo hold. Rane served until October, 1945, when she was returned to her owners. Later renamed Elenora, she was broken up in 1968.

A final craft used as a seaplane tender and naval air wing utility boat, beginning in 1929, was the 58-ton V 19 (ex-Vb 19), built in 1914 as a searchlight boat and later a vedette in 1918. She remained in naval service until 1947.

Yugoslavia

The Royal Yugoslavian Navy's sole venture into shipboard aviation came with the commissioning of the seaplane carrier-tender Zmaj (Kite), built in Hamburg in 1928-30. Very little is known about this vessel, which apparently was intended to serve as a mobile maintenance, repair and supply station for seaplanes operating from the many coves, bays and inlets of Yugoslavia's long Adriatic coast. Her aircraft capacity is given as 10, but that seems excessive for her size and probably refers to the number of planes she could transport. It is likely that the first aircraft she tended were French Hanriot H.41 seaplanes, the early mainstay of the small Yugoslavian navy air arm. Later aircraft may have included some of the 12 German Dornier Do.22K floatplanes purchased in 1938.

Zmaj fell into German hands during the 1941 invasion and was renamed, in a straightforward translation, Drache (Kite). In 1942, after having served as a Luftwaffe utility vessel, she was turned over to the German navy and converted to a minelayer, being extensively rearmed. As Drache, she operated a Flettner Fl.282 helicopter for at least a short period during 1942, thus becoming one of the first warships in the world to be equipped with this type of aircraft. She was sunk by British aircraft at Samos in December, 1944. (Some sources date the loss as December, 1943.)

Conclusions

The catapults that Spanish and Argentine cruisers carried into the 1950s were anachronisms even then, for the development of the helicopter during World War II spelled an end to a period of aeronaval history that began when Glenn Curtiss' first seaplane was hoisted aboard the USS Pennsylvania in 1911. The future of shipboard aviation resided in the flight-deck carrier and, for other warships, the helicopter. The beginning of the changeover from seaplane to helicopter among the smaller navies might be said to be symbolized by an event of May 1950 when a float-equipped Bell 47D helicopter made the first landing of such a craft in the Argentine navy, touching down on the aft turret of *Admirante Brown*.

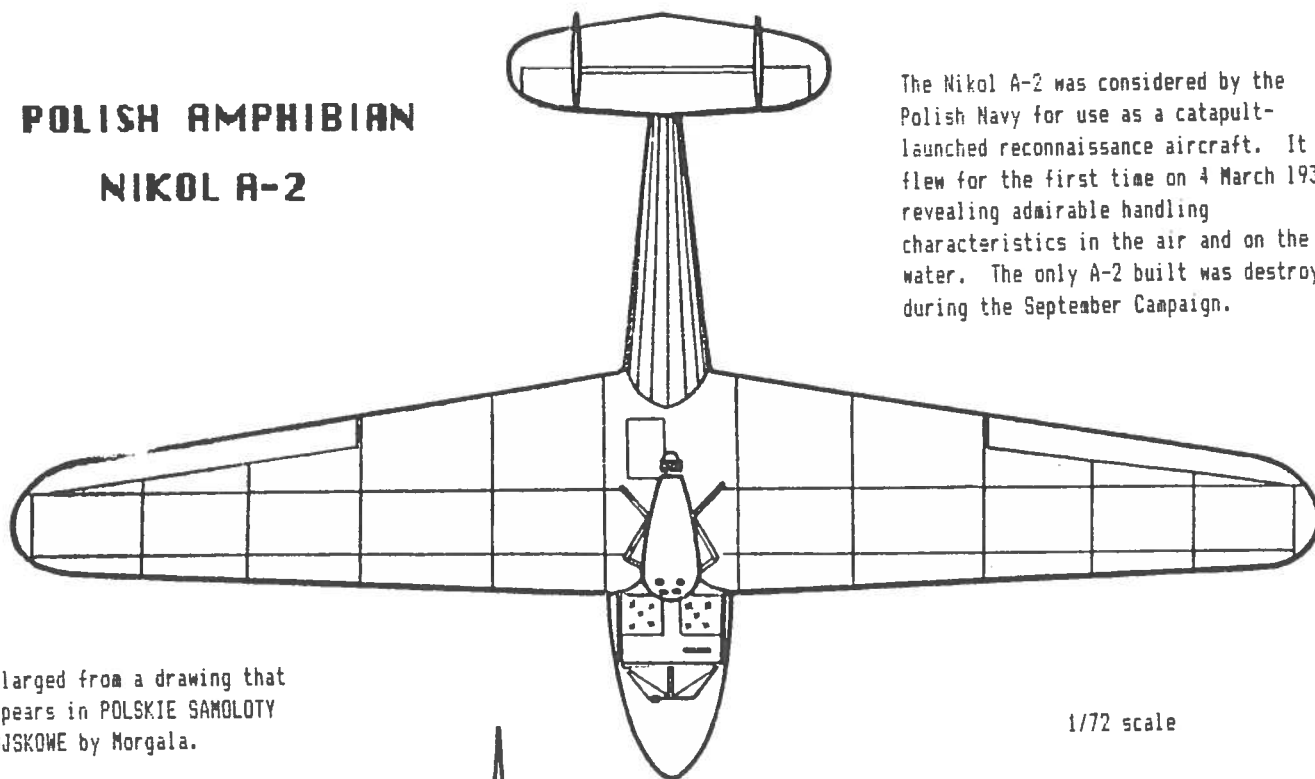
The utility of the rotary-wing aircraft for shipboard use had long been foreseen; it could operate from small deck spaces and, unlike the seaplane, did not require a special launching device and did not depend upon favorable sea conditions for landing. The merits of such a craft had been reported to the US navy well before World War I. The British Admiralty's Airship, Aeroplane and Seaplane Subcommittee had studied a form of helicopter in 1915. The US, Italian and Spanish navies had conducted shipboard tests of Autogiros in the '30s. In 1935, speculating upon the future of the Autogiro, Oscar Parkes thought that its "ability to arise and alight in a confined space would seem to presage the end of the catapult which now makes such a call upon deck space and weight". (3) Four years later, Admiral Sir Barry Domville and two of his associates peered into a murky crystal ball and unwisely predicted the demise of the flight-deck carrier but opined that "possibly a rota seaplane ... is a suitable machine for capital ships".(11)

Bringing such predictions into reality awaited the development of a truly practical rotary-wing aircraft, which the Autogiro was not (although a few Autogiros saw operational shipboard use by the Japanese during World War II). Today, with operation of helicopters feasible from nearly every type of warship, shipboard aviation occupies a more important place in the world's small navies than ever before. It may become even more important in

(Continued on page 72)

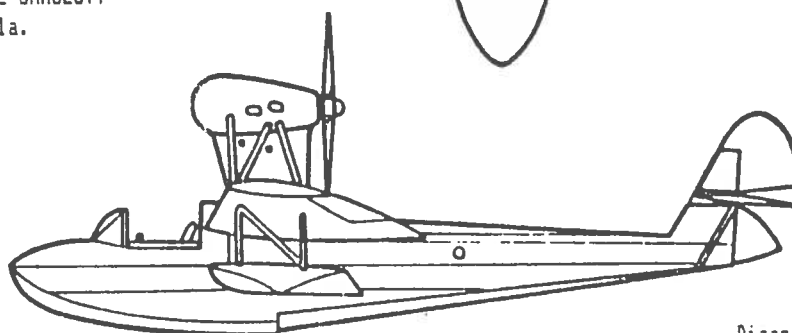
POLISH AMPHIBIAN **NIKOL A-2**

The Nikol A-2 was considered by the Polish Navy for use as a catapult-launched reconnaissance aircraft. It flew for the first time on 4 March 1939, revealing admirable handling characteristics in the air and on the water. The only A-2 built was destroyed during the September Campaign.



Enlarged from a drawing that appears in *POLSKIE SAMOLOTY WOJSKOWE* by Morgala.

1/72 scale



Dimensions: Span 12.6 m, length 7.7 m, height 3.1 m. Weights: empty 630 kg, loaded 950. Performance: maximum speed at sea level 180 km/hr, minimum speed 80 km/hr. Range: 600 km.

Ref: Cynk, *POLISH AIRCRAFT 1893-1939*.

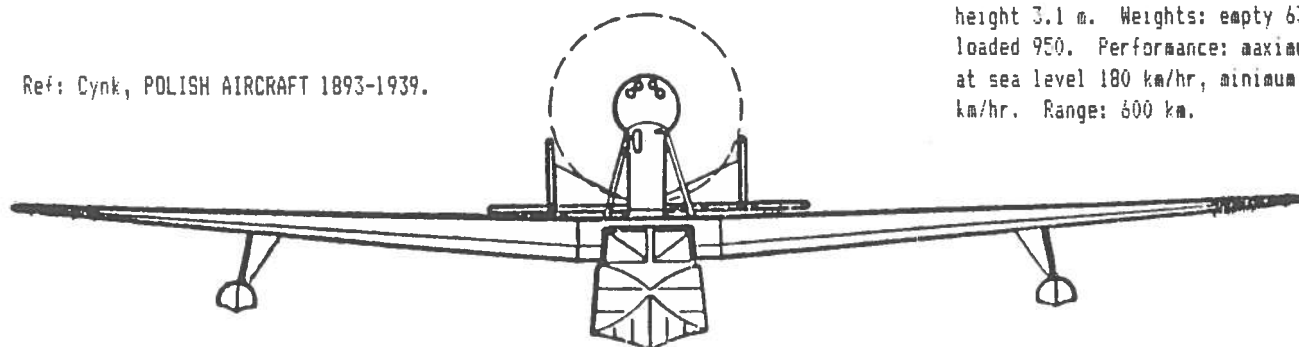
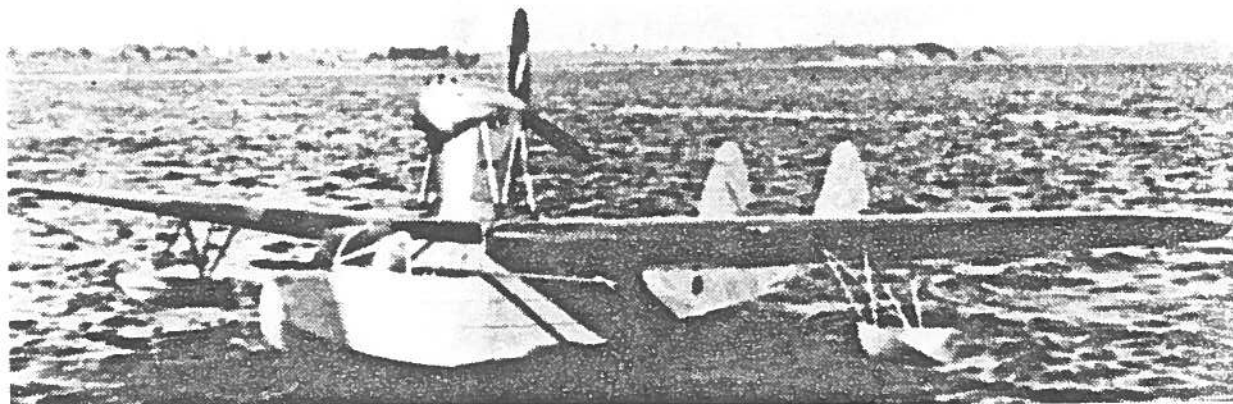


Photo via R. D. Layman



FLYING BOATS FROM SAVOIA

AEROPLANI S.I.A.I. 1915-1935, Bignozzi and Gentili. 30.5 cm by 21 cm, 128 pages. L.15000 (approximately \$7.50).

Ever since SAFO published Hal Arhens' review of this book a few issues back, I have been trying to obtain a copy of myself. Well, I finally succeeded, and it is every bit as good as Hal described. Thirty-four aircraft types are described in detail appropriate to their importance; less than a page for aircraft that failed to be completed and eleven pages for important aircraft types such as the twin-hulled S-55. Each description is accompanied by several photos and a small, but well-done, three-view scale drawing. The text is in both Italian and English; and the English is not a summary but a complete translation with the Italian in the left-hand column and the English in the right-hand column.

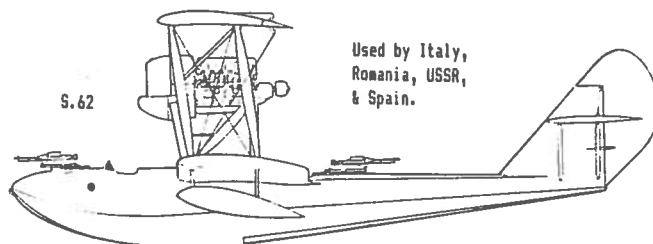
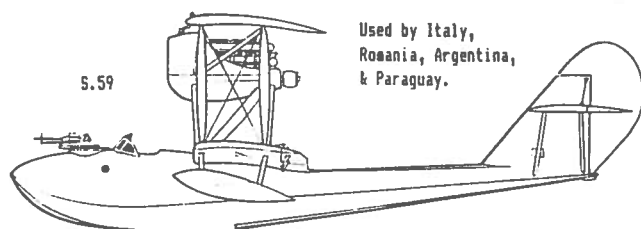
This book is highly recommended to anyone interested in aviation between the great wars in general and especially to anyone interested in flying boats in particular; only 9 of the aircraft described are landplanes. To illustrate the quality of the contents, the part of the text dealing with the use of the S.16 aboard the Spanish Dedalo is reproduced below along with an enlargement to 1/72-scale of the drawings of the S.16.

"Spain ordered several S.16 Bis in more lots for its naval aviation, some of which fitted with an Hispano Suiza 300 hp engine, which were ferried in flight, the first one by Del Maschio in the summer of 1920. In the winter 1920-21 Maddalena, Conforti, Guarnieri and Passaleva ferried to Spain a total of fifteen S.16 flying no less than 18,000 kilometers with no trouble, in adverse weather conditions. ... The S.16 was also built in Spain under licence, by the Naval Aviation School workshops at Barcelona. Called 'Bicicleta',

bicycle, in the Spanish Navy, the S.16 received a first order for a lot of ten in 1921. These aircraft, some of which had double controls, were mostly used as trainers, ... but four of them were operating on the Dedalo during the first moroccan campaign of 1922, and the spanish built S.16 remained operational a long time.

"The S.16 was followed in production by the S.16 Bis, twelve of which were ordered in Spain, the first one being delivered on 15 May 1924. In that same year a just formed squadron of six S.16 Bis reached in flight the ship Dedalo engaged in operations. Spanish S.16 Bis, like the italian ones, had a frontal gun turret which could be closed when the aircraft was used as a trainer. In June 1925 the spanish Aeronautica Naval had in charge nine, with registrations from M-NSDA to M-NSDL."

Editor's comments: The drawing represents the S-passenger civil airliner. The military S.16's were identical except that the crew of two would have been accommodated in a pilot's cockpit and a gunner's position in the extreme front. I have been unable to find any clear photos of the Spanish S.16, but it is reasonable to expect that the aircraft carried the red, yellow, purple roundel in four wing positions with the same colors on the rudder, probably with an anchor on the yellow portion. The registration would have been carried on the fuselage, most likely on a white band, but the overall color is hard to guess. Anyone with information about the markings of the S.16 in Spanish naval service is encouraged to write to the SAFO. In fact, if you find the above comments somewhat provocative in their suppositions, you are very observant.



(Continued from page 70)

the near future, for although the flight-deck carrier is too expensive a proposition for most small navies, the development of V/STOL aircraft - which performed so successfully in their first test of arms over the Falklands - holds out the possibility that warship of the smaller nations may soon carry such planes as proudly as they did seaplanes in the 1930s.

Notes

1. The adjectives "small" and "smaller" as used in this study refer to the size of a navy in comparison with fleets of the major maritime powers. No imputation of inferiority in any other respect is intended. Some of the nation's covered in the study, although possessing small navies, were (and remain) quite large in terms of territory, population and/or economic resources. Some "small" navies were reasonably large relative to some major powers. The Spanish navy of the 1920s, for instance, was almost certainly as large as that of the Soviet Union during the same period in number of effective, commissioned vessels.

2. The description of the projected Portuguese seaplane carrier and its contractual history is taken from US Navy Office of Naval Intelligence Attache Report ("ONI

registers"), National Archives Record Group 38, entry 98, box 1270, file 4502, and supplied by Christopher C. Wright.

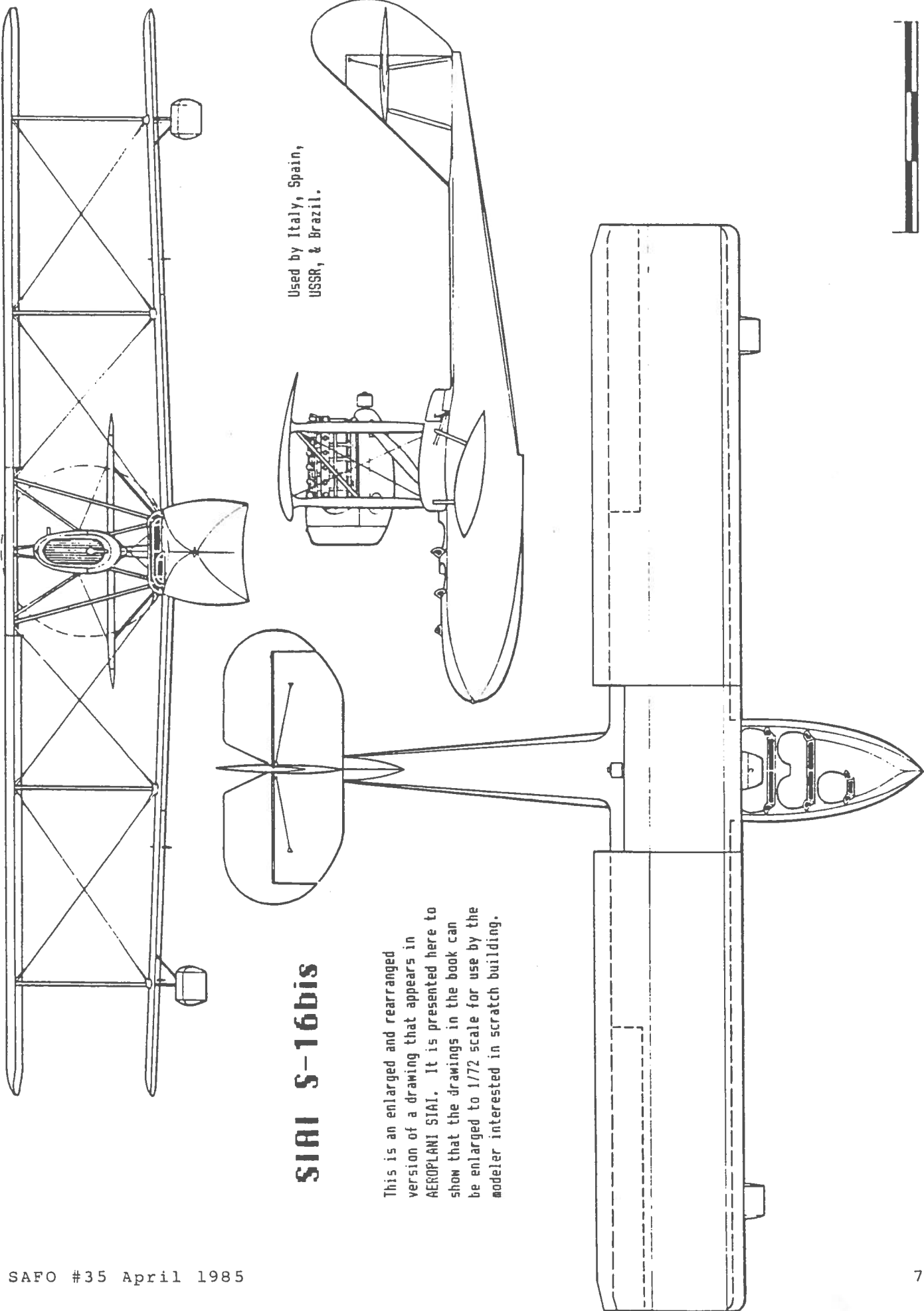
3. Oscar Parkes, "A Forecast of World Navies," Scientific American 153 No. 5, November 1935: 246-50.

4. Adm. Sir Barry Domville, Vice Adm. J.E.T. Harper and E.H. Baxter, "Capital Ships," in Charles W. Domville-Fife (ed.), Evolution of Sea Power; London: Rich & Cowan, 1939; p. 77, "Rota" was a British term for rotary-wing aircraft in general.

Acknowledgements

I am especially indebted to Stellan Bojerud for considerable information about Swedish naval aviation, not all of which it was possible to incorporate in this article. I am also grateful for assistance from Michael Burgess, Wim de Bruyn, Willard C. Frank Jr., Ross Gillet, Jacek G. Kolodziejczyk, Michel Ledet, D. Y. Louie, R. H. Nailer, Lt. Col. Earl Palmer Jr., (USA ret), Georg von Rauch, Jim Sanders and Christopher C. Wright.

R. D. Layman (SAFCH #619), 50 Mohawk Ave., Corte Madera, CA 94925



T-34C PRODUCTION LIST

Published in the January 1985 Issue of South East Aviation Review

GM- 1	CIVIL	N23911		SEEN PARIS AIR	GM-72				
				SHOW 77	GM-73				
GM- 2	MOROCCO	CN-ATA/01		SEEN JUL80	GM-74				
GM- 3	MOROCCO	CN-ATB/02		SEEN JUL80	GM-75				
GM- 4	MOROCCO	CN-ATC/03		SEEN JUL80	GM-76				
GM- 5	MOROCCO	CN-ATD/04		SEEN JUL80	GM-77				
GM- 6	MOROCCO	CN-ATE/05		SEEN JUL80	GM-78				
GM- 7	MOROCCO	CN-ATF/06	DEC77	SEEN JUL80/81	GM-79				
GM- 8	MOROCCO	CN-ATG/07	DEC77		GM-80				
GM- 9	MOROCCO	CN-ATH/08		SEEN JUL80	GM-81				
GM-10	MOROCCO	CN-ATI/09		SEEN JUL80	GM-82				
GM-11	MOROCCO	CN-ATJ/10		SEEN JUL80	GM-83				
GM-12	MOROCCO	CN-ATK/11		SEEN JUL80	GM-84				
GM-13	MOROCCO	CN-ATL/12		SEEN JUL80	GM-85	GABON	TR-KFS	FEB82	
GM-14	ECUADOR	FAE-014	78		GM-86	GABON	TR-KFT	FEB82	
GM-15	ECUADOR	FAE-015	78		GM-87	GABON	TR-KFU	FEB82	
GM-16	ECUADOR	FAE-016	78		GM-88	GABON	TR-KFV	FEB82	
GM-17	ECUADOR	FAE-017	78		GM-89	BEECH	N69225		COMPANY
GM-18	ECUADOR	FAE-018	78						DEMONSTRATOR
GM-19	ECUADOR	FAE-019	78		GM-90	INDONESIA	LD-3417	MAY84	DEL. AS N6924D
GM-20	ECUADOR	FAE-020	78		GM-91	INDONESIA	LD-3418	MAY84	DEL. AS N6924K
GM-21	ECUADOR	FAE-021	78		GM-92	INDONESIA	LD-3419	MAY84	DEL. AS N69249
GM-22	ECUADOR	FAE-022	78		GM-93	INDONESIA	LD-3420	JUN84	DEL. AS N6925E
GM-23	ECUADOR	FAE-023	78		GM-94	INDONESIA	LD-3421	JUN84	DEL. AS N6925L
GM-24	ECUADOR	FAE-024	78		GM-95	INDONESIA	LD-3422	JUN84	DEL. AS N69253
GM-25	ECUADOR	FAE-025	78		GM-96	INDONESIA	LD-3423	JUN84	DEL. AS N6926J
GM-26	PERU	AI-510			GM-97	INDONESIA	LD-3424	JUN84	DEL. AS N6926L
GM-27	PERU	AI-511			GM-98	INDONESIA	LD-3425	JUN84	DEL. AS N6926Q
GM-28	PERU	AI-512							
GM-29	PERU	AI-513							
GM-30	PERU	AI-514							
GM-31	PERU	AI-515							
GM-32	ECUADOR	FAE-026	78						
GM-33	ECUADOR	FAE-027	78						
GM-34	ECUADOR	FAE-028	78						
GM-35	ECUADOR	FAE-029	78						
GM-36									
GM-37									
GM-38									
GM-39									
GM-40									
GM-41	ARGENTINA	0719	78	DESTROYED " "					
GM-42	ARGENTINA	0720		SEEN FEB78 USA					letters-letters-letters-letters-letters-letters-letters
GM-43	ARGENTINA	0721							
GM-44	ARGENTINA	0722							
GM-45	INDONESIA	LD-3401	APR78	DEL. AS N4763M					"I am preparing an article about the aircraft used by
GM-46	INDONESIA	LD-3402	APR78	DEL. AS N4768W					the Croatian Air Force in WWII. I've gathered some fine
GM-47	INDONESIA	LD-3403	APR78	DEL. AS N4872M					photos including ones of a Breguet 19, Bu 131, Potez 25,
GM-48	INDONESIA	LD-3404	APR78	DEL. AS N4874M					and Czech-built Fokker F-IX. When it is finished, this
GM-49	ARGENTINA	0723							article will published in IRMS-FRANCE's "Vitrine du
GM-50	ARGENTINA	0724							Maquettiste'. If you would like, I could prepare an
GM-51	ARGENTINA	0725							English-language version for the SAFO. I would appreci-
GM-52	ARGENTINA	0726		DESTROYED " "					ate the help of SAFCH members in obtaining photos of
GM-53	INDONESIA	LD-3405	MAY78	DEL. AS N4875M					Me-109G, Do-17, and other aircraft in Croatian markings.
GM-54	INDONESIA	LD-3406	MAY78	DEL. AS N4879M					Any information on this subject would be most welcome.
GM-55	INDONESIA	LD-3407		DEL. AS N4881M					"I am also beginning work on two other articles which
GM-56	INDONESIA	LD-3408		DEL. AS N4882M					I would be pleased to submit to the SAFCH. They are
GM-57	INDONESIA	LD-3409		DEL. AS N4884M					about the Yugoslav and Greek Air Forces at the beginning
GM-58	INDONESIA	LD-3410		DEL. AS N4887M					of WWII. I've already gathered some nice photos of
GM-59	INDONESIA	LD-3411	78	DEL. AS N4890M					Greek Bloch 151, Battle, Blenheim, etc., but I could
GM-60	INDONESIA	LD-3412	JUL78	DEL. AS N4892M					always use more photos and information."
GM-61	INDONESIA	LD-3413	JUL78	DEL. AS N4893M					Michel Ledet (SAFCH #602), 39 rue Aristide Briand,
GM-62	INDONESIA	LD-3414	JUL78	DEL. AS N4894M					62200 Boulogne/Mer, FRANCE
GM-63	INDONESIA	LD-3415	AUG78	DEL. AS N4895M					"I am sending my best wishes along with drawings and
GM-64	INDONESIA	LD-3416	AUG78	DEL. AS N4903M					photos of the Pilatus Turbo Trainer in Latin American
GM-65	ARGENTINA	0727							service. I hope this material will be of interest to
GM-66	ARGENTINA	0728							our readers. At the present time, I am working for the
GM-67	ARGENTINA	0729		DESTROYED " "					following articles for the SAFO: C-47, P-47D, B-25,
GM-68	ARGENTINA	0730		DESTROYED " "					Arava, and AT-7 (all in Latin American service). If any
GM-69	ARGENTINA	0731							fellow SAFCH members can lend a hand with information,
GM-70	ARGENTINA	0732							colors, photos, etc., I would greatly appreciate it."
GM-71	ARGENTINA	0733							Roberto Vargas C. (SAFCH #386), Apartado Postal

" 15MAY82 PEBBLE ISLAND

MISSING AIRCRAFT ARE:

4 FOR FAE - ECUADOR DEL. IN 78, MAKES A TOTAL OF
20 AIRCRAFT

3 FOR ECUADOR NAVY DEL. IN MAY80 (ANE-221/223/225)

3 URUGUAYAN NAVY

8 FOR UNKNOWN CUSTOMER(S)

Ben Marselis (SAFCH #143), Hacketts Lane, Pryford,
Woking GU22 8PP ENGLAND

letters-letters-letters-letters-letters-letters-letters

"I am preparing an article about the aircraft used by the Croatian Air Force in WWII. I've gathered some fine photos including ones of a Breguet 19, Bu 131, Potez 25, and Czech-built Fokker F-IX. When it is finished, this article will published in IRMS-FRANCE's "Vitrine du Maquettiste'. If you would like, I could prepare an English-language version for the SAFO. I would appreciate the help of SAFCH members in obtaining photos of Me-109G, Do-17, and other aircraft in Croatian markings. Any information on this subject would be most welcome.

"I am also beginning work on two other articles which I would be pleased to submit to the SAFCH. They are about the Yugoslav and Greek Air Forces at the beginning of WWII. I've already gathered some nice photos of Greek Bloch 151, Battle, Blenheim, etc., but I could always use more photos and information."

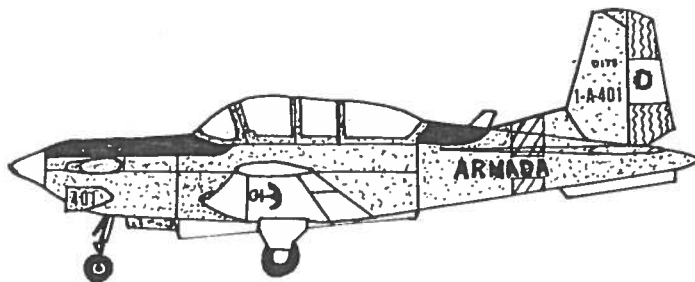
Michel Ledet (SAFCH #602), 39 rue Aristide Briand,
62200 Boulogne/Mer, FRANCE

"I am sending my best wishes along with drawings and photos of the Pilatus Turbo Trainer in Latin American service. I hope this material will be of interest to our readers. At the present time, I am working for the following articles for the SAFO: C-47, P-47D, B-25, Arava, and AT-7 (all in Latin American service). If any fellow SAFCH members can lend a hand with information, colors, photos, etc., I would greatly appreciate it."

Roberto Vargas C. (SAFCH #386), Apartado Postal
21-921, D. Coyoacan, Mexico 04000, D. F., MEXICO

MENTORS

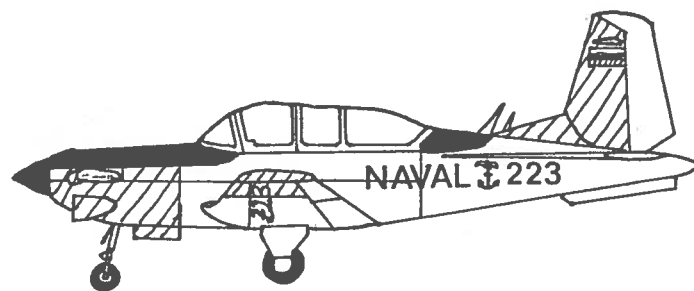
2 x 2



1. T-34C-1, 1-A-401, Armada Argentina (Argentine Navy), Naval Training School, Punta de Indio NAS, 1980.

Light gull grey: fuselage, upper surfaces of wings and tailplane. Gloss white: lower surfaces of wing and tailplane; all moveable control surfaces (flaps, elevators, & ailerons); spinner; blade aerial. Gloss red: stripe on rear of fuselage. Black: serial numbers ('1-A-401' and '0179') on fin, 'ARMADA', and '401' on chin intake. Matt black: anti-glare panels. Insignia: black anchors on wings in four positions; rudder stripes - light blue, white, light blue with yellow sun on white stripe.

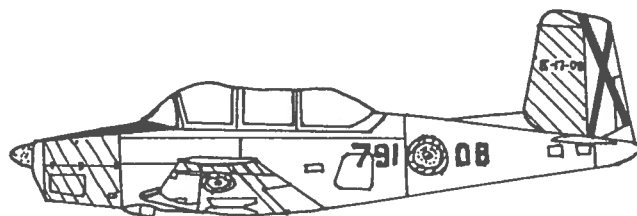
Reference: Aviation and Marine, October 1980.



2. T-34C, ANE 223, Aviacion Naval Ecuatoriana (Ecuadorian Navy).

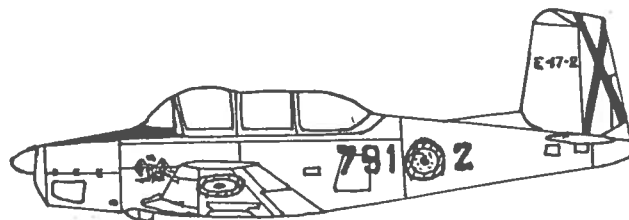
Standard US Navy trainer scheme of gloss white overall with gloss red nose, wing tips, and fin. Black: spinner, 'NAVAL', '223', anchor on fuselage, 'ANE 223' on lower left and upper right wings. Matt black: anti-glare panels. White: all aerals (note extra aerial on fin above fin flash). Insignia: Yellow, blue, red roundels (yellow outer) with black anchor superimposed on lower right and upper left wings. Fin flash is yellow, blue, red (yellow upper) outlined in white.

Reference: Air Pictorial, June 1981.



3. T-34A, E-17-08, 791 Escuadron, Academia General del Aire, Ejercito del Aire (791 Squadron, Air Academy, Spanish Air Force), 1981.

Overall aluminum with day-glo orange nose band, wing stripe, and fin.



Mike Mirkovic (SAFCH #465),
11/32 Curlew St., Bondi,
NSW 2026 AUSTRALIA

BEECHES OF THE URUGUAYAN ARMED FORCES

Beech UC-43: 1 dd 3/44; ex 43-10891; c/n 4939; s/n S-501, later 501; to CX-BAB in 1962.

Beech UC-45B: 1 dd 21/2/46; ex 43-35497; s/n G4-506, later 506.

Beech AT-11: 9 dd 9/8/47 (5), 20/8/47 (2), & 8/9/47 (2); ex 42-37228, -37235, -37326, -37423, -37453, -37509, -37624, -37699, & -37707; s/n 100/108 with prefix B1, B2, & G3 (e.g. B1-100, B2-101, B1-104, G3-105, & G3-107), also reported is 503 (no proof). Some later converted to C-45 standard; s/n 502/505 of which 502 was also reported with prefix G4-, while a converted one remained with the serial 107. At least 101 was not converted and is most probably the one used for photographic duties (now in a museum).

Beech TC-45J: 3 dd to the Navy 5/61 as A-210 (ex BuA 39759), A0211, & A-212 (ex BuA 51041). 'A-' dropped from serial during the late 1970s. Built as SNB-1 and converted to SNB-5/TC-45J.

Beech TC-45H: 3 former Argentine Navy aircraft presented to the Navy 11/79; s/n 215/217, of which 216 was wfs by March 1982.

Beech A65: 2 dd 12/3/69, s/n 540 & 541; one for VIP use and the other as an ambulance aircraft. 540 became CX-BPB/T-540 during 1982 and 541 became CX-BKP/T-541 during 1978. 5 more dd 11/78 of which one was reported as having an accident during delivery; this could have been

s/n 546 which most probably had to become CX-BKT/T-546.

S/n of these 5 were 543/547 which became: CX-BKQ/T-543, ex N2344T, c/n LC-266; CX-BKR/T-544, ex N7825L, c/n LC-279; CX-BKS/T-545, ex N333FW, ex N8316N, c/n LC-294; CX-BOX/T-546, ex N6188S, c/n LC-316 (may be original 546 repaired); CX-BKU/T-547, ex N81LF, c/n LC-317.

Beech 200T: Reported one sold to Uruguay Oct. 1980. Arrived 19/11/80 at the naval base C/C Carlos Curbelo, s/n 871. ex N3067D, c/n BT-4 (ex c/n BB-408). Former Beech demonstration aircraft.

Beech T-34A: 1 bought for \$42,075 in 1977; s/n 650.

Beech T-34B: 1 dd to the Navy 15/10/66, ex BuA 140852, c/n BG-186, s/n A-260. Four ex-Chilean Navy aircraft reported acquired during 1980, but no proof of arrival and use in Uruguay. The Air Force received 25 T-34B's during 1978, ex BuA 140684, 140694, 140704, 140710, 140714, 140732, 140735, 140748, 140750, 140754, 140756, 140760, 140761, 140769, 140790, 140806, 140808, 140815, 140832, 140847, 140878, 140888, 140889, 140890, & 144017.

Beech T-35C-1: Three delivered May 1981 with s/n 270-272.

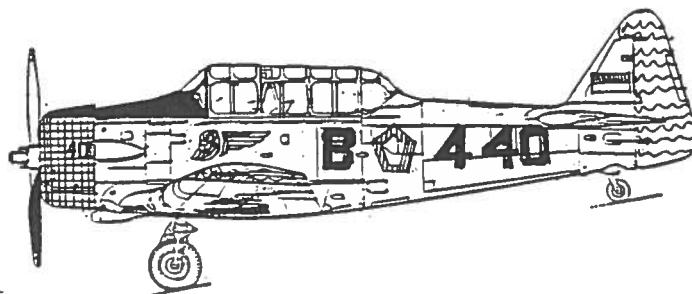
Thanks to Daniel Hagedorn, Jorge Felix Nunez, and SEAR.

Bram Risseuw (SAFCH #396), P. de Hoogstr., 4532 HH Terneuzen, NETHERLANDS

TEXANS IN INDONESIA

The Indonesian Air Force (AURI) used North American Texans as trainers and ground attack aircraft from the late 1950s until the mid 1970s. The aircraft depicted here flew with WING PENDIDIKAN No. 1 (No. 1 Flight Training Wing).

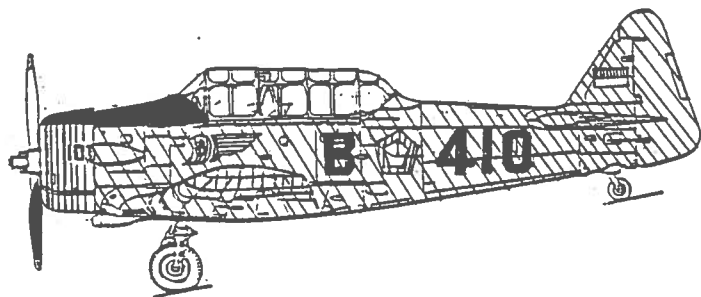
1.



North American T-6G B-440: Aluminum overall with French Blue cowling, day-glo red rudder and wing tips, and black '40' on the cowling.

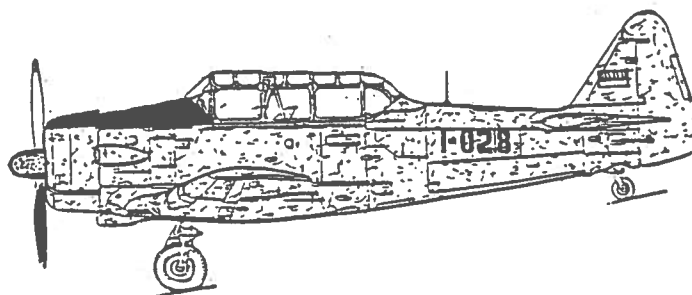
FRENCH	TRAINER	DARK	DAYGLO	INSIGNIA	COLOUR KEY
BLUE	YELLOW	GREEN	RED	RED	

2.



North American AT-16 B-410: Dark green overall, red cowling and wing tips, and white '10' on cowling. This aircraft carried rocket rails under the wings for ground attack duties.

3.



North American T-6G I-028: Trainer yellow overall including spinner and canopy frames. No national insignia nor Wing badge on fuselage.

Common to all aircraft illustrated: Matt black anti-glare panels, silver canopy frames (except as noted for I-028); propeller blades are silver in front with black backs and yellow tips; black serial numbers (except B-410 which was outlines in silver); red and white fin flashes and pentagons. Red and white pentagons on upper port wing and lower starboard wing and black 'AURI' on the upper starboard and lower port wing.

MW
1/85



4.

WING PENDIDIKAN No. 1 Badge: White shield with blue design, blue and white wing, yellow bird with a red cap, black and white earphones, black beak, red mouth, white legs, standing on a red perch with a black dot.

References: 1 & 4 KOKU FAN, April 1984
2 & 3 Photos supplied by Mick Burton

Mike Mirkovic (SAFCH #465), 11/32 Curlewis St., Bondi, NSW 2026 AUSTRALIA

CLASSIC 1/72 PLANE, Detlef Schorsch, Mollneys Nocken 6a, D-4300 Essen 15, WEST GERMANY.

Modelers who believe that a machine is not a real airplane unless it has a propeller and two wings have had a hard time of it lately. The most recent kit of a WWI airplane by a major company was AIRFIX's Sopwith Pup of more years ago than I care to remember. The RED STAR kit of the Anatra DS-1 is the exception that proves the rule, but I suspect that this kit was released more by mistake than as the result of market research.

The smaller injection-moulding firms have tried to fill the gap. PEGASAS has given us a Sopwith Snip and MERLIN has released a Halberstadt D.II and, more recently, an Albatros W.4. (I know that PEGASAS offers the Gloster Gamecock & Gauntlet, Fairey Fox, and Curtiss Sparrowhawk, and KP has excellent kits of the Avia BH-23 and Letov S-16, but only someone as indiscriminating as your editor would consider these to be among the magnificent flying machines.)

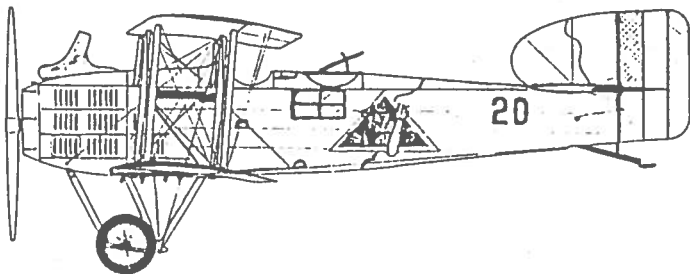
For a truly representative selection of kits of WWI aircraft one must turn to a vacuform manufacturer. We are fortunate that not only is CLASSIC PLANE producing vacuforms of WWI aeroplanes, but their pressings are among the best available.

Kits of WWI airplanes available (or scheduled for release before the end of this summer) from CLASSIC PLANE are the de Havilland DH.4, DH.9, & DH.9A, Siemens-Schuckert D.III, Hansa-Brandenburg CC & C.I, Aviatik D.I, Junkers J.10/CL.I, Pfalz D.XII, Fokker M.7, D.II, D.VI, & D.VIII, Sopwith 1-1/2 Strutter, Breguet 14, Curtiss JN4, Packard Le Pere LUSAC II, Hanriot HD1/2, Morane Saulnier A1, DFW C.V, AEG G.IV, Nieuport 12, Albatros D.I/II, and Martinsyde Bussard & Elephant. Non-WWI aircraft include the Deperdussin & Bristol Racers, Fokker F.II & F.III, Zeppelin-Straaken E4/20 (look that one up in your files), and the Junkers F.13. The only "modern" aircraft in their catalog is the Heinkel 176.

To allow you to judge the quality of these kits for yourself, a detailed review of one of their kits will be given followed by shorter reviews of two other of their kits.

Breguet 14

Breguet 14 A2/B2. (1/72 scale) This aircraft has been high on the SAFCH list of most-wanted kits for a long time. The Breguet 14 was used by an incredible number of countries including France, Belgium, & the US during the war, and after the war by Argentina, Brazil, China, Czechoslovakia, Denmark, Finland, Greece, Japan, Poland, Portugal, Thailand, Manchuria, Rumania, Spain, Turkey, Uruguay, and Yugoslavia.



Moulded on a sheet of thick, white plastic 23 cm by 12 cm, this kit consists of two fuselage halves, single-surface upper and lower wings, single-surface horizontal tail, two-sided vertical tail, axle fairing, landing-gear struts, two seats, radiator, and propeller. All the

small parts look useable so there should be no need to raid the spare-parts box.

For building the bomber version, an alternate lower wing with bomb racks, full-span flaps, and greater span is included on a separate sheet. The upper wing is moulded with horn-balanced ailerons for the late version A2 and B2; these can be cut off when modeling an early version. If the bomber version is built, the fuselage windows will have to be cut out and glazed.

An interesting experiment is the moulding of the wheels on a sheet of clear plastic to allow the modeler to simulate uncovered wheels; how convincing this will be remains to be seen.

Also included with the kit is a length of rod for the wing struts. This rod is the best I have seen in 1/72 scale; it is of scale thickness and the streamline cross section is accurately reproduced with a sharp trailing edge that requires no sanding.

The surface detail is excellent, especially the prominent louvers on the cowl and the sag of the fabric on the fuselage. The surface detail on the wings is properly subdued and the control surfaces are precisely delineated.

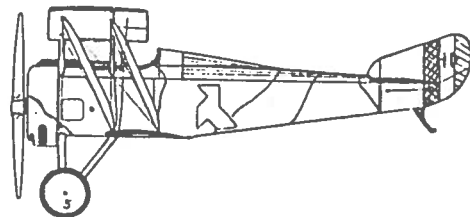
The instruction sheet includes a 1/72-scale 3-view drawing of a Breguet 14 B2 of the 96th Air Squadron of the American Expeditionary Force in France, a photo of the 14 A2 in the Musée de l'Air at Le Bourget, and a list of references. The text is in both German and English and, while not providing any generalized construction tips other than how to cut out the small parts, the distinctions between the versions are well described. A color key is provided for the three-tone camouflage so popular on the Breguet 14.

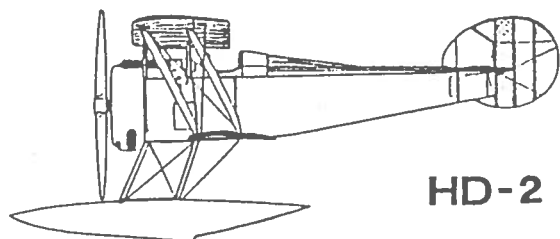
No decals are included, which is probably a good thing since everyone will want to finish the Breguet in a different country's markings.

The CLASSIC PLANE vacuform kit of the Breguet 14 should make into an excellent model without too much effort. The plastic is sufficiently thick so that no bulkheads or formers should be needed. I'm not sure how the single-surface wings will look. Perhaps one of our readers who has had experience with this type of construction would care to comment.

HANRIOT HD-1

Hanriot HD-1/2. (1/72 scale) It is a mystery to me why this elegant little biplane has been ignored by all the injection and vacuform companies - until now. CLASSIC PLANE's kit of the Hanriot HD-1 is a little gem. Crisply moulded on a thick, white sheet of 16.5 cm by 11.5 cm plastic are the two fuselage halves, single-surface top and bottom wings, engine cowl, single-surface vertical and horizontal tail, seat, two-piece engine, propeller, landing-gear struts, and single-sided wheels. For the HD-2 float-plane, the larger tail (two-sided), and floats are included. The small parts look useable, but I think I would use the AEROCUB engine, propeller, and wheels. Included are several lengths of excellent strut material.





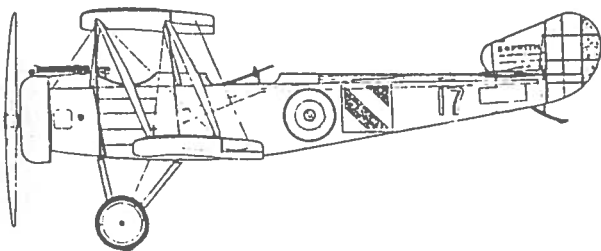
HD-2

The instruction sheet provides 1/72-scale 3-view drawings for both versions including a color key for a camouflaged Belgian machine. The colors for Italian and Swiss machines are also described. Two photos of the HD-1 in the RAF Museum at Hendon are included as well as a list of references. No decals are included.

The Hanriot HD-1 is another good kit for CLASSIC PLANE and one that should go together easily. The Belgian machine would look great, but there are also some colorful post-war Italian Hanriot illustrated in Gentilli's "L'Aviazione de Caccia Italiana 1918-1939". While not strictly a small air force, the US Navy flew HD-2's from tiny platforms built over a battleship turret.

Sopwith 1½ Strutter

Sopwith 1-1/2 Strutter. (1/72 scale) This is another good small-air-force subject. Besides Britain, France, and the USA (flying off battleships again), the 1-1/2 Strutter was used by Russia, Lithuania, Latvia, Rumania, and Japan. (If anyone has information on the markings and color schemes of these aircraft in Lithuanian or Latvian service, please send it to the editor so it can be published in the SAFO.)



The kit is moulded on a sheet of thick, white plastic (17 cm by 11.5 cm). Included are the two fuselage halves, single-surface top and bottom wings, single-surface horizontal tail, double-surface vertical tail, seat, 3 engines (two different types), cowl, 2 propellers, landing-gear struts, and single-sided wheels. (Again, consider using AEROCUB engine, propeller, and wheels.) Excellent strut material is supplied.

Surface detailing is good and the cockpit area is devoid of markings so that either the two- or single-seat version can be built.

The instruction sheet includes a 1/72-scale drawing of a RNAS machine with No. 3 Wing, Ocher, January 1917. Side-view drawings are provided for the aircraft flown by SubLt. Butterworth on the historic Oberndorf raid, a single-seat night fighter, and an aircraft interned and used in Holland. Five photo show aircraft at museums in England, Belgium, & France. No decals are included.

The 1-1/2 Strutter should be another easy kit to build and one that can be recommended, especially if we publish information on its use by the smaller air forces.

In summary, CLASSIC 1/72 PLANE is producing an excellent series of kits of WWI aircraft, most of which have extensive small-air-force applications. If you are interested in obtaining any of the kits in their catalog, write directly to Detlef. Be sure to mention the SAFCH.

PSC 72 (1/72-scale vacuform kits). Graham Boak of England has called my attention to an extraordinary series of vacuform kits from Czechoslovakia. The following kits have been received: LaGG-3, LaGG-5, La-9, La-11, Yak-21, and Sh-2. These kits are of similar quality, so a review of one should suffice for all.

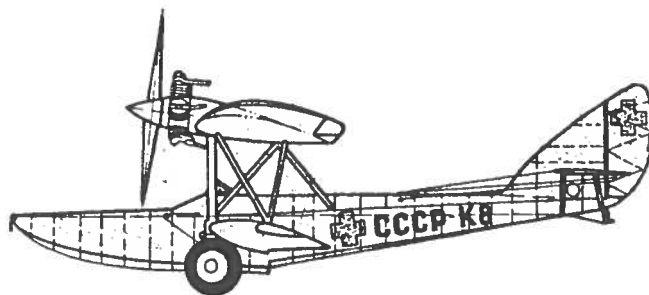
The Shawrov Sh-2 will probably not be known to many modelers. It doesn't help that the name is spelled differently in various references. In "Russian Civil & Military Aircraft 1884-1969", Nowarra calls it a "Schavrov Scha-2". In "Combat Aircraft of World War Two", Weal, et al call it a "Shavrov Sh-2". In "Suomen Ilmavoimien Lentokoneet 1939-72", Keskinen calls it a "Savrov S-2". They are all close and the difference is in how they transferred the Russian alphabet into the Roman alphabet. It really doesn't matter, by any other name it is still an interesting modeling subject.

The Shavrov Sh-2 is a small amphibian aircraft that was designed as an aquatic complement to the Po-2. Its first flight was in 1930, and the aircraft served throughout WWII and beyond.

The PSC kit is moulded on 3 sheets (13 cm by 9 cm) of medium thickness plastic. Parts include two fuselage halves, 2-part center section with nacelle, 4 wing panels, 2-part horizontal tail, two 2-part sponsons, two 2-part floats, 2-part engine, two seats, cockpit floor, optional cover for an ambulance version, two 2-part wheels, landing-gear struts, and spinner. Inscribed in the plastic are the front and back bulkheads for the cabin, instrument panel, struts, and tail skid. The clear parts consist of two nicely moulded parts: the windscreen for the conventional open cockpit and a canopy for an enclosed-cockpit "staff" aircraft.

The moulding is sharp and the surface detail is good, especially the fabric effect on the moving control surfaces. All parts should be usable except for the struts and tail skid. The only other thing I would replace is the engine and propeller which could come from the KP kit of the Po-2 which used the same 100-hp M-11 power plant. (If you are wondering what to do with a Po-2 without an engine, how about a Yugoslav Po-2 with an inline engine?)

The instructions are on two sheets with the text in both Czech and English. One sheet contains an "exploded" construction diagram, a color key, and detailed drawings of the cockpit interior. The second page contains 1/72-scale drawings for three aircraft in Soviet markings: a camouflaged staff aircraft, a white ambulance aircraft, and a camouflaged ambulance aircraft. No decals are included.



This is an excellent kit of a most unusual aircraft. It should go together without any problems. Best of all, there is a small-air-force connection. Two Shavrovs were captured by the Finns and served in the Continuation War with Finnish serials AV-186 and -187. Besides the above mentioned book by Keskinen, references (with photos) to the Sh-2 in Finnish service are to be found in AIR INTERNATIONAL April 1982, "Lentajan Albumi 2" (page 90-91) where the Sh-2 is described as "suited only to be played with", and SUOMEN SIIVET 4/5 1972 where it is told that AV-186 was destroyed on 3.10.42 when the pilot landed it in a lake with the wheels down and AV-187 remained in service until 1945.

All the other PSC kits look as good as this one. One each of the above mentioned kits are available from the SAFCH Sales Service, but do not ask for the Sh-2, I've purchased this little beauty for myself.

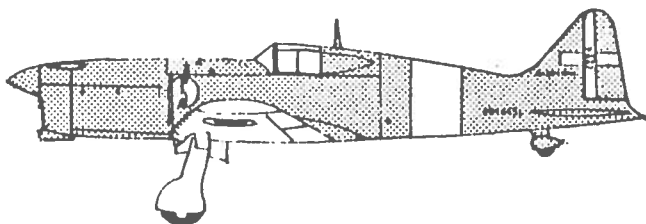
Let's hear what Graham has to say about these kits: "I'm currently making the LaGG-3. It is a good match to most of the plans, certainly better than the poor Frog/Novo/Red Star kit. The recent Mallari plans seem far superior to any other, and it doesn't quite look so good compared with them. There's a bit of doubt as to just what sub-variant it is supposed to be; the canopy being definitely an 'oblotchenniy' whereas the exhausts and spinner imply something earlier. It requires a bit of care to avoid making the fuselage too narrow in the cockpit area, and the nose inlet requires some work whatever version you choose. The wing-root intakes also need work, but that would be true of any kit of this aircraft.

"In general terms, I would say that the PSC kits are middle-quality vacuforms, not up to the standards of Rareplane, Formaplane, Wings, or Eagle Talon, but better than Contrails, Airmodel, and KPL. The LaGG-3 is not as good as the Sh-2 or the UT-1. The La-9 somewhere in between. The La-11 matched Soviet drawings, but the photos and Western plans show a deepened cowling, more Hellcat-ish. It shouldn't be too difficult to correct."

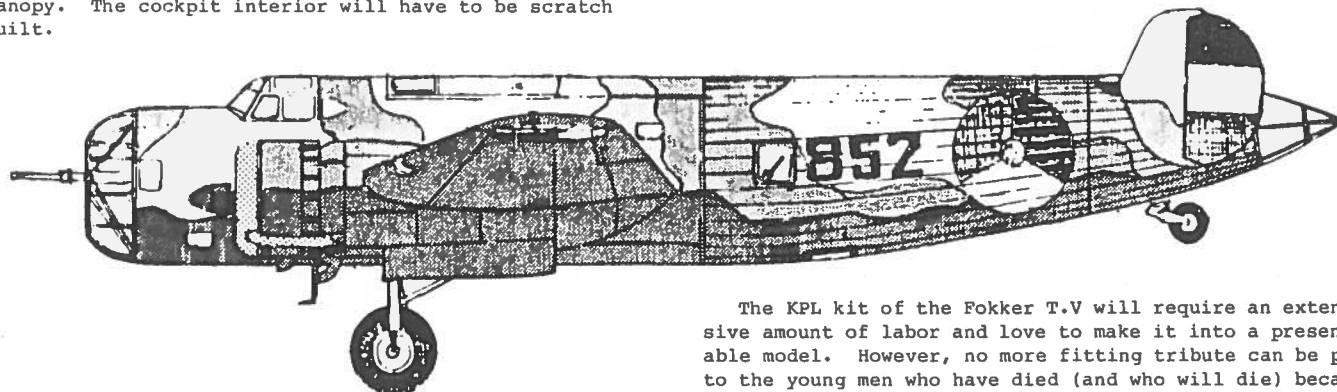
KPL MODELS, 1/72-scale vacuform models. Ken LaSala, 703 Cannon Rd., Silver Springs, MD 20904.

While the vacuform kits from KPL are not up to the technical standards we have come to expect from the better manufacturers, there is no question but that the KPL catalog contains the most imaginative selection of aircraft available anywhere. A list of recent releases was published in SAFO #33, page 7. The detailed reviews to follow will give you some idea of the quality of these kits.

SAI-207 (1/72-scale) \$3.95 plus \$1.50 postage. Similar in concept to the Caudron C.714, the SAI-207 was a elegant light-weight fighter-interceptor based on a record-breaking pre-war sports plane. However, this aircraft is little known since only thirteen were built before the Italian Armistice halted further production.



The KPL kit is moulded on a 21 cm by 12.5 cm sheet of medium thickness white plastic. Included are two side of the fuselage, top and bottom halves of the wings, a two-sided horizontal tail, two 2-piece wheels, and a clear canopy. The cockpit interior will have to be scratch built.



The moulding is not sharp and care will have to be exercised when cutting out and sanding the parts, but the model is so small that bulkheads other than those in the cockpit will not be needed. The canopy, while well moulded, has a pronounced egg-shell texture. Surface detail is at a minimum with only the control surfaces and wheel wells delineated. The spare-parts box will have to provide the propeller, tail wheel, and landing-gear legs. While you are in the spare-parts box, you might as well find some wheels since those included with the kit are not useable.

The instruction sheet includes an excellent 3-view drawing, an exploded view of the construction, and generalized instructions for building a vacuform kit. Two references are mentioned, but I would add to these Vol. 2 of "Dimensione Cielo" which contains excellent photos and a color 3-view drawing.

The KPL kit of the SAI-207 will take quite a bit of work and patience to turn out an acceptable model. However, it should be worth the effort; its racer-like lines and diminutive size (a wing span of only 12.5 cm) will stand out in any collection or on any contest table.

Fokker T.V (1/72 scale) \$7.95 plus \$1.50 postage. No greater contrast with the graceful SAI-207 could be imagined than the Fokker T.V, a portly, Dutch-uncle of a two-engine bomber. But beauty is as beauty does. During four days in May 1940, the nine Fokker T.V that made up the entire Dutch bomber force repeatedly fought their way through skies full of Me-109s to attack the invading Germans until the last Dutch crew perished in flames.

The KPL kit of the Fokker T.V is moulded on two sheets of medium thickness white plastic, each measuring 22.5 cm by 26 cm. Parts include fuselage halves, four wing sections, four nacelle sections, two-sided horizontal and twin vertical tails, 2-sided main and tail wheels, and numerous smaller parts most of which are difficult to identify because of the lack of an exploded construction diagram. Recognizable are four seats, main landing-gear struts, and two(?) instrument panels. A sheet of clear plastic contains the cockpit canopy, the front and rear gun turrets, and numerous windows. The clear parts are barely useable so home vacuforming is recommended along with the liberal use of Krystal Kleer. The spare-parts box will have to be address for propellers, machine guns, and lots of other odds and ends.

The quality of the moulding is much better than for the SAI-207, but the fuselage will still need to be reinforced with plastic strip along the seams, and bulkheads and spars will be needed to provide strength. Surface detail consist of engraved control surfaces, a good representation of the fabric-covered rear fuselage, and some accurately placed but crudely engraved panel lines.

The instruction sheet consists of a good 1/72-scale 3-view drawing and a diagram of the interior. No references are given, but AERO ALBUM #5 contains a definitive article on the Fokker T.V by Alfred Damen. This includes many photos, a cut-a-way drawing, and 2 pages of Paul Matt's excellent scale 3-view drawings.

The KPL kit of the Fokker T.V will require an extensive amount of labor and love to make it into a presentable model. However, no more fitting tribute can be paid to the young men who have died (and who will die) because the Democracies will not pay for their defense until they are actually attacked.

The following editorial, from ALA #8, will explain some of the reasons for the delays you may have experienced in getting your copies of AVIACION LATINOAMERICANA. This is an excellent journal and well worth any effort necessary in obtaining it.

"A long time has passed since we met our readers through issue #8. Since we don't want to repeat one of our usual apologizing editorials; we will try to provide an explanation for our lengthy delay as well as for the new fashion of ALA-AVIACION LATINOAMERICANA.

"When we delivered ALA-8, we were feeling quite confident the future of the bulletin was safe and prosperous. We were feeling so much confident that we decided to set a new record of copies and we printed 1,000 (higher previous record was 450 only). We thought these samples would sell in a really short time; and so, we didn't mind. Time went through and demonstrated we were completely wrong: we are currently holding near 500 samples of ALA-8 and we don't know what to do with them!

"Besides that excessive number of samples printed, we developed a quality improvement plan aimed to provide a magazine with composer typed texts, more photographs, more drawings ... more everything. Accordingly, we invested every cent we had in it. As a result, our money started draining up leaving our pockets completely empty by the end of year. Early in December, the whole ALA staff met to discuss possible solutions to that constraining problem. We analyzed every possibility, we tried several alternatives and we finally determined that it was impossible to keep on publishing ALA with the format, costs and reduced commercial success it had in that moment. Accordingly, we decided to close the magazine; drafted out a method to pay most of ALA's debts and chose to start working on it early in January this year, after the Christmas season was over.

"Christmas and New Year weeks gave us some time to think about our decision of closing the publication. We knew (we know!!) we have very good information about Latin American Aviation scene; and we felt it was a shame to stop publishing the only magazine dedicated to that scene. Besides, we thought we were leaving a bad image among our kind readers, whom supported us even when we failed to accomplish our schedules to send them the magazine.

"For this reason, Carlos Ay talked to everyone in the staff about an idea he had in mind. Early in September 1984, he purchased a home computer, a dot matrix printer, two disk drives and a word processing program. He thought that reducing the high quality standards of ALA and editing it in a single language; it would be possible to keep on publishing ALA with a low cost profile; the kind of investment we could do with our empty pockets.

"Some members considered as incorrect action to lower the magazine's quality after attaining a so good one; while the other side thought the real value of ALA wasn't in the quality of its physical appearance but in its contents. In spite of the different points of view, we finally decided to assemble ALA through Carlos' home computer; editing it only in English; keeping a fixed 28-32 page format and always considering that ALA is a magazine made by amateurs for amateurs. We think we cannot work as professionals since we are not able to do so because of the many responsibilities we have in our private lives and first line jobs.

"Many of our Spanish-speaking readers will possibly claim ALA is a Latin American publication and, as such, it must be edited in a Latin language. We know that; and we would like to publish it that way (in fact it would be far easier for us since our English knowledge is not the best). But we also know that the Latin American spotters community has very few members. Because we need more readers to provide more money, we chose the European and North American markets; since we know that they can provide more readers than the Latin American one.

"Besides, ALA-AVIACION LATINOAMERICANA will be published in a quarterly basis (4 issues a year). Readers which subscribed during our bimonthly period don't have to worry, they will receive the quantity of issues they payed; but in a longer time.

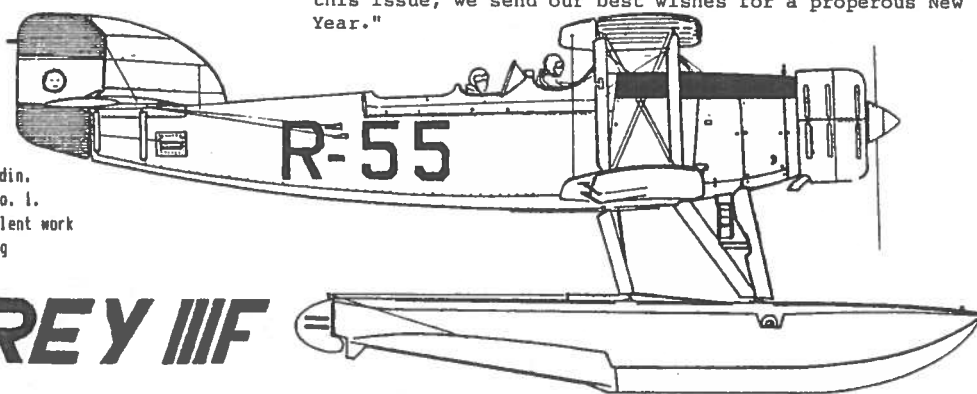
"About ALA-10, due next June, we can advance some features: on the civilian side, John M. Davis will provide an interesting report on the Lockheed twins operated in Chile; while on the military scene, Jorge Nunez Padin will write about the A-4Q Skyhawk operations during the Malvinas Air War providing attractive profiles as well.

"Hoping our readers will accept our apologies for our lack of continuity; but expecting they will appreciate this issue, we send our best wishes for a prosperous New Year."

Fairey IIIF Mk.IIIM with panther VI engine, in service with Puerto Belgrano Air Defense Sqd. during annual exercises of the Argentine fleet, February 1937.

Drawing by Jorge Felix Nunez Padin.
First published in ALA Vol. 1 No. 1.
This is an example of the excellent work that appears in this outstanding magazine.

FAIREY IIIF



LOCKHEED HERCULES PRODUCTION LIST 1954-1986 (5th edition), Lar Olausson, Box 142, S-53032 Satenas, SWEDEN.

SAFCH member Lars Olausson has come out with the latest edition of his labor of love - "Everything you wanted to know about who used the Herky Bird but were afraid to ask". The book now runs for 112 pages and includes aircraft up through c/n 5090. Besides the Production List (with Lockheed construction number, model, registration, delivery date, & history/remarks), appendices include C-130A/B/E/H/L-100 Original & Modified Versions, Hercules Operators, Civil Registrations, USAF/USCG/USN/USMC C-130 Operating Units & Serial Numbers, USAF Tail Codes, History of USAF C-130 Units, and Hercules Literature.

Things are well organized; for example, if you want to find out about the C-130's operated by Chad, you go to the Operators appendix and find that Chad has one C-130; c/n 3208. Reference to the Production List reveals that c/n 3208 is a C-130A model 182-1A (57-0501) which was delivered to the 36 Sqn. RAAF as s/n A97-208 on 581213. To Lockheed as N2267N in 1978. Stored at Laverton (8104,8306 reg SH3017, later HK3017X, deleted.) To Richmond 8308. To Ford & Vlahos, San Francisco, N4445V 8308. To French government (COOPER). Sogerma, Bordeaux 8311. To the government of Chad TT-PAA (8312, 8407).

Now the best part: This book is available from Lars for the ridiculously low price of US \$3.00 in cash or postal giro 541636-7. If payed any other way add \$2.00 (bank charges are high in Sweden).

AIRCRAFT OF THE SPANISH CIVIL WAR

PART 8 - PWS 10

At the start of the Spanish Civil War in July of 1936, both the Nationalists and the Republicans were desperately short of combat aircraft. Both sides approached the Polish Government about the possible purchase of suitable fighter aircraft. One of the types under consideration was the Polish-designed PWS 10 which had recently been withdrawn from use in Polish Air Force. Negotiating in the great secrecy, the Nationalists managed to sign a contract for 15 reconditioned PWS 10 just before 29 July 1936 when the Polish Government declared itself neutral and terminated all arms sales to Spain. The PWS 10s were delivered to Spain in December 1936 where they were given Spanish serials 4-1 to 4-15.

In January 1937, Captain Angel Salas Larrazabal was ordered to leave his post with a Fiat CR 32 unit to take command of a new fighter squadron which was to be equipped with the PWS 10s. Upon taking over his new command, he immediately determined that the Polish fighters were far inferior to the CR 32 and He 51 currently employed by the Nationalists. Even more important, they were inferior to the fighters used by the Republicans. Therefore, the new squadron was equipped with He 51s instead of the PWS 10s.

The PWS 10s were sent to the Escuela de Terez dela Frontera where they were relegated to the role of fighter trainer and, because of their low speed, they were given the name Chiquita (Little One). By 1938, with their number reduced by attrition to eleven machines, the PWS 10s were withdrawn from service and replaced by modern training aircraft obtained from Germany and Italy.

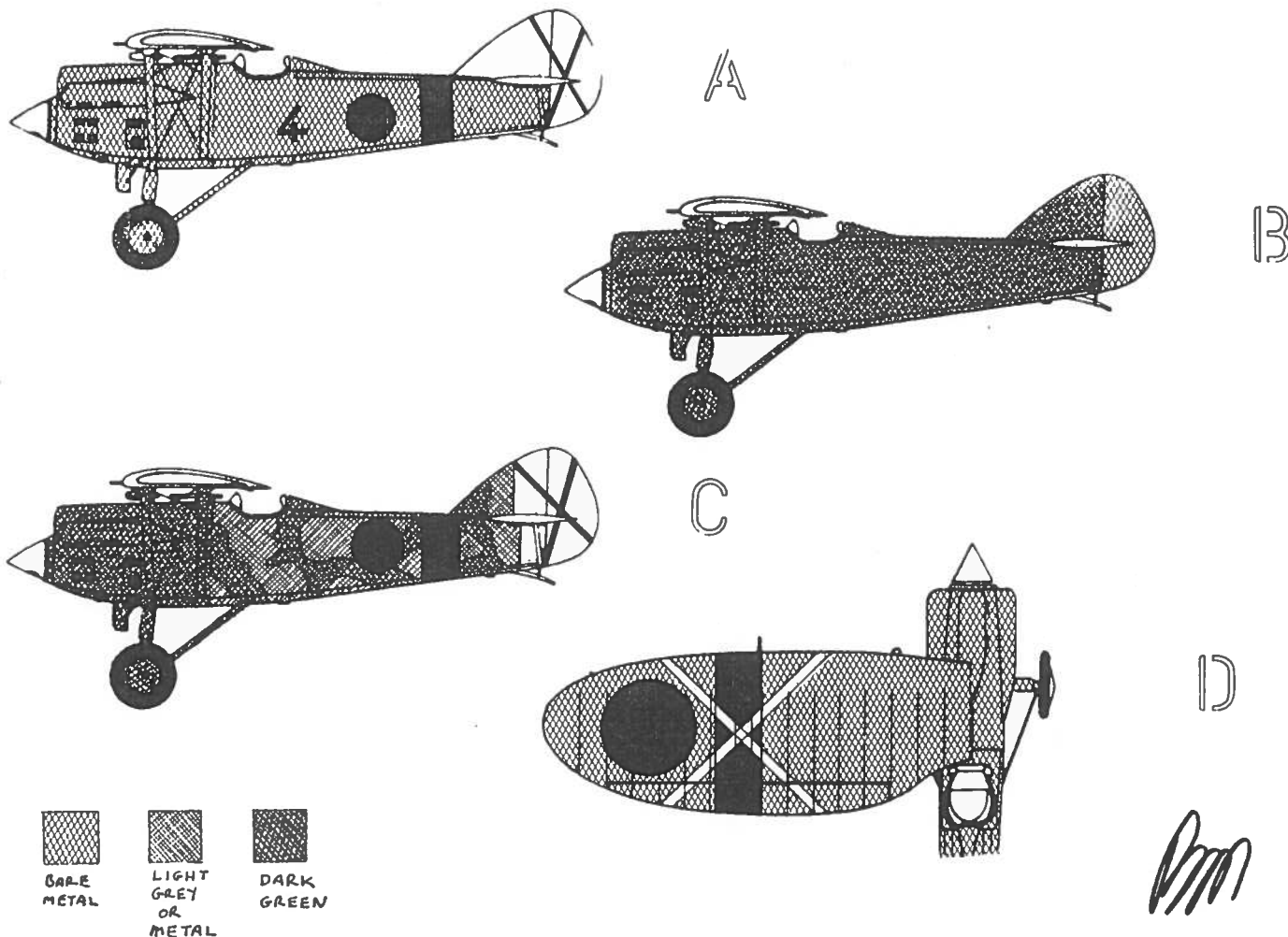
Fig. A. The drawing shows the only machine known to have carried the '4' code. It appears to have a bare metal fuselage with white tail, rudder, and spinner. The fuselage band, the number, and the cross on the rudder are black.

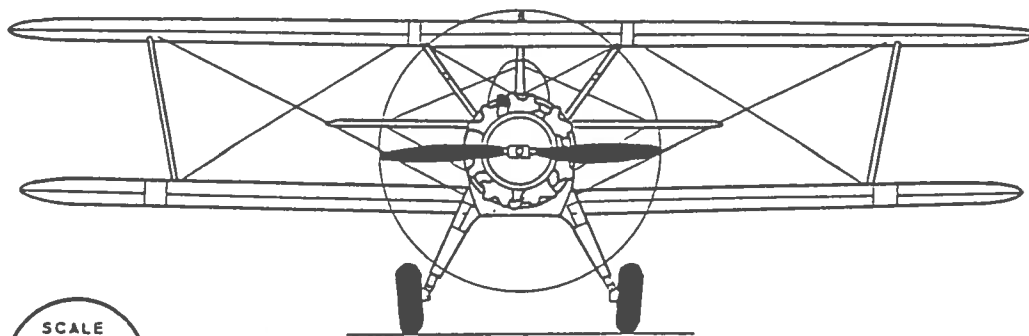
Fig. B. This machine seems to be finished in a dark green with the rudder in a lighter colour. The spinner is either white or natural metal. No other markings are carried. This aircraft was photographed at Jerez de la Frontera. At least one other machine carried the same scheme.

Fig. C. Another machine photographed at Jerez. This one appears to be in natural metal with patches of dark green. The tail and rudder are white and the spinner appears to be natural metal. The band, disc, and tail cross are black. This aircraft was photographed after an accident in which it turned over smashing its tail and rear fuselage. At least one other machine carried this scheme.

Fig. D. This drawing shows the upper surface of one of the PWS 10s described above (possibly the one in Fig. C). It appears to be finished in natural metal with a black disc and bands and white cross. The under surfaces would have carried the black disc and bands but no white cross.

Bob Massey (SAFCH #364), 108 Worrall Ave., Arnold, Nottingham, ENGLAND

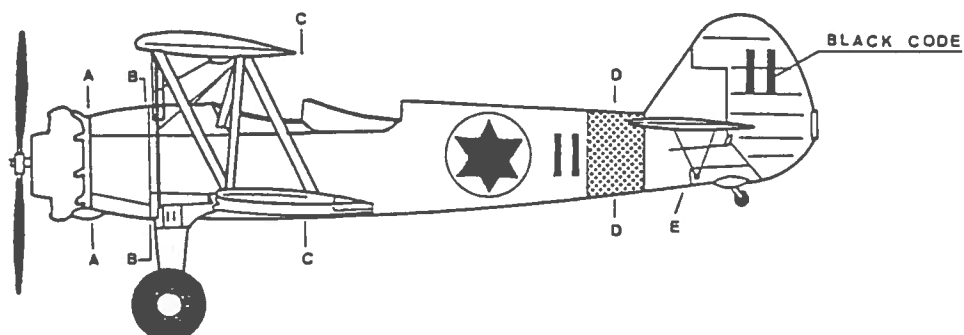
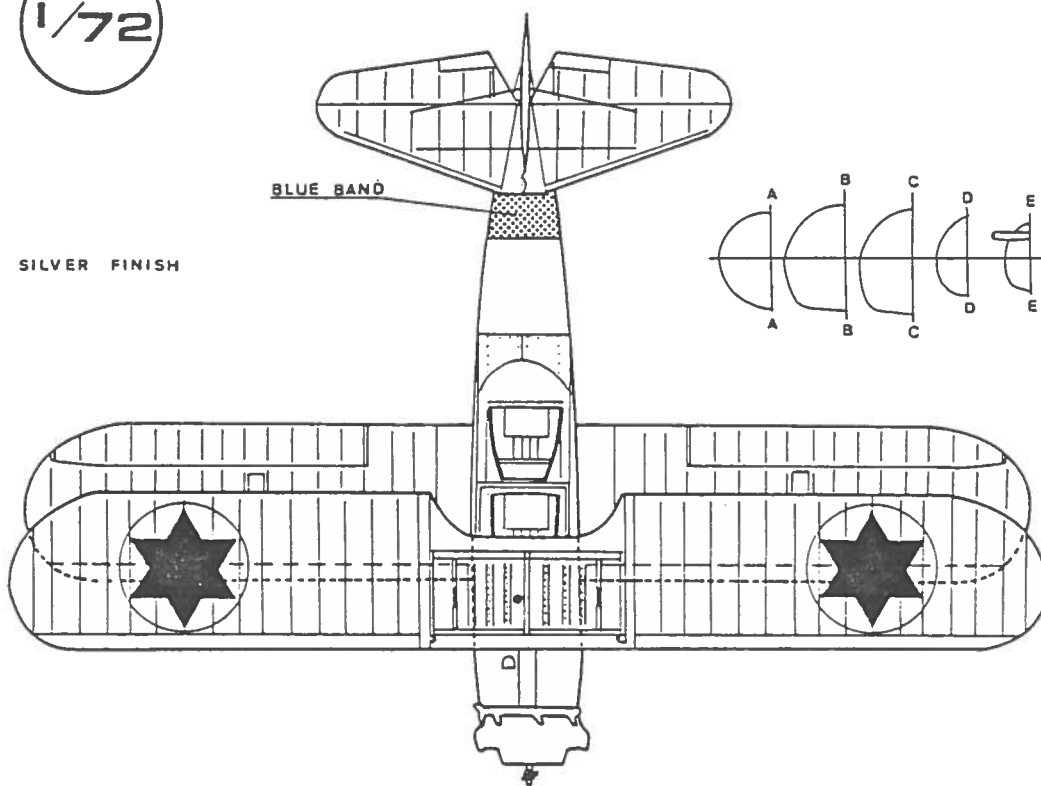
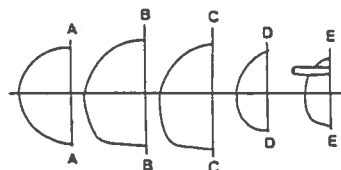




SCALE
1/72

OVERALL SILVER FINISH

BLUE BAND



BLACK CODE

BOEING-STEARMAN PT-17

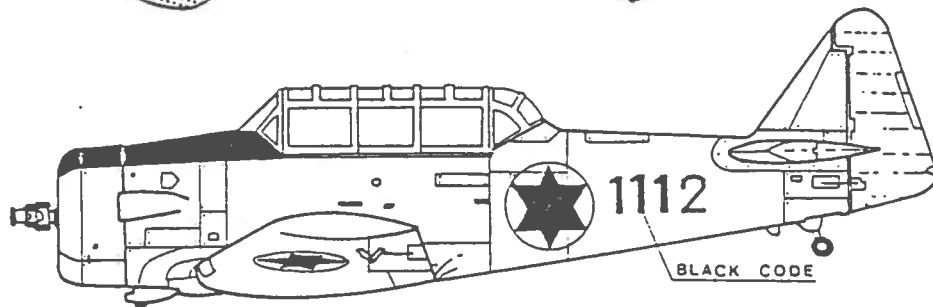
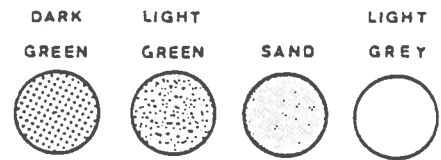
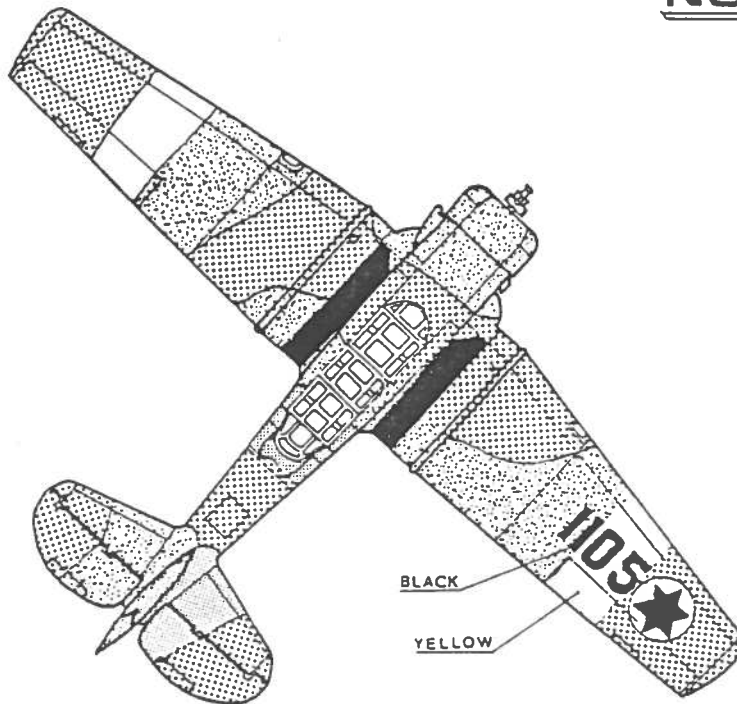
CAYDET

Reproduced with the kind permission of IPMS-BELGIUM

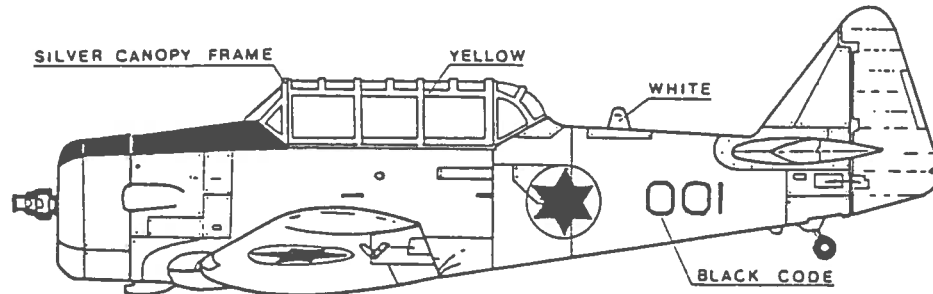
ERIC HOURANT

NORTH - AMERICAN

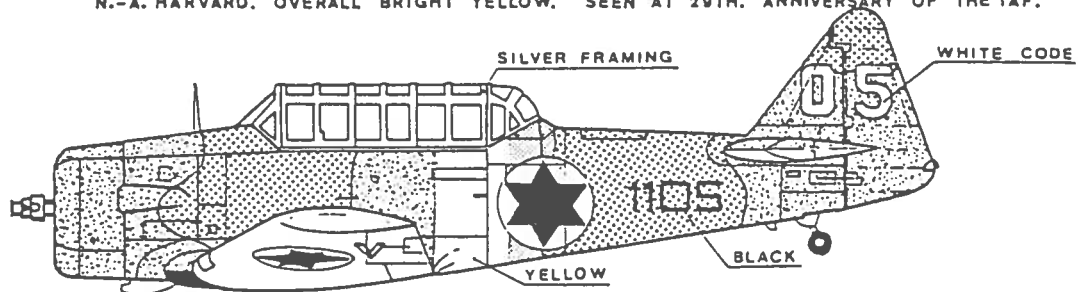
T-6 TEXAN



N.-A. HARVARD USED AS TRAINER AT SIRKIN AFB. OVERALL SILVER FINISH.



N.-A. HARVARD. OVERALL BRIGHT YELLOW. SEEN AT 29TH. ANNIVERSARY OF THE IAF.



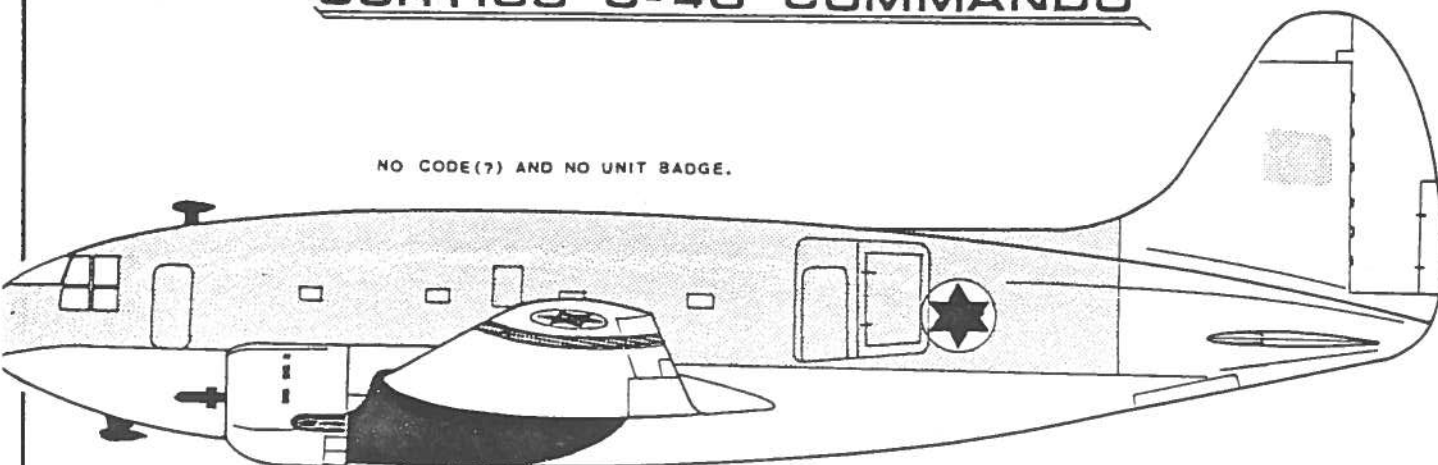
DRAWINGS BY HOURANT E.

AF-6. USED AS DIVE BOMBER AND GROUND-SUPPORT.

Reproduced with the kind permission of IPMS-BELGIUM

CURTISS C-46 COMMANDO

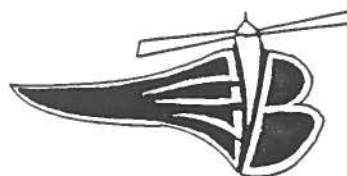
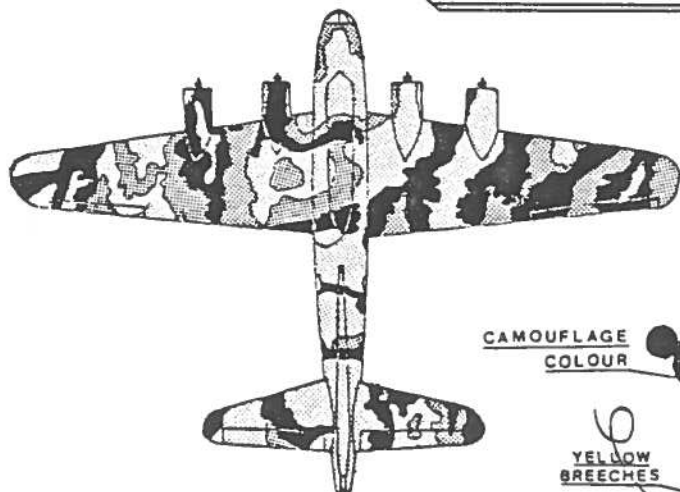
NO CODE(?) AND NO UNIT BADGE.



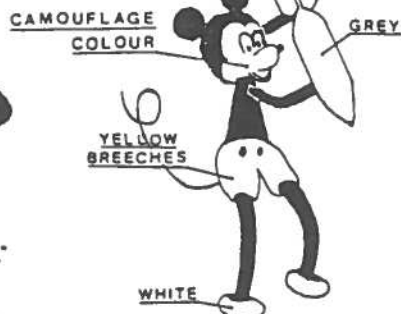
THIS C-46 IS AN EX-PANAM AIRCRAFT. SOME COMMANDO'S WORE OLIVE DRAB CAMOUFLAGE. BASED AT EKRON AFB



BOEING B-17G



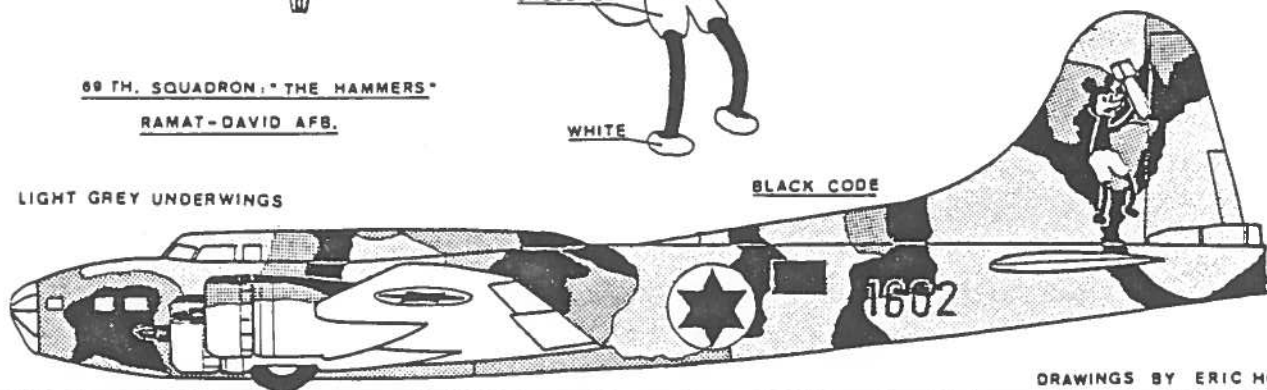
B-17 PILOT BADGE



69 TH. SQUADRON, "THE HAMMERS"
RAMAT-DAVID AFB.

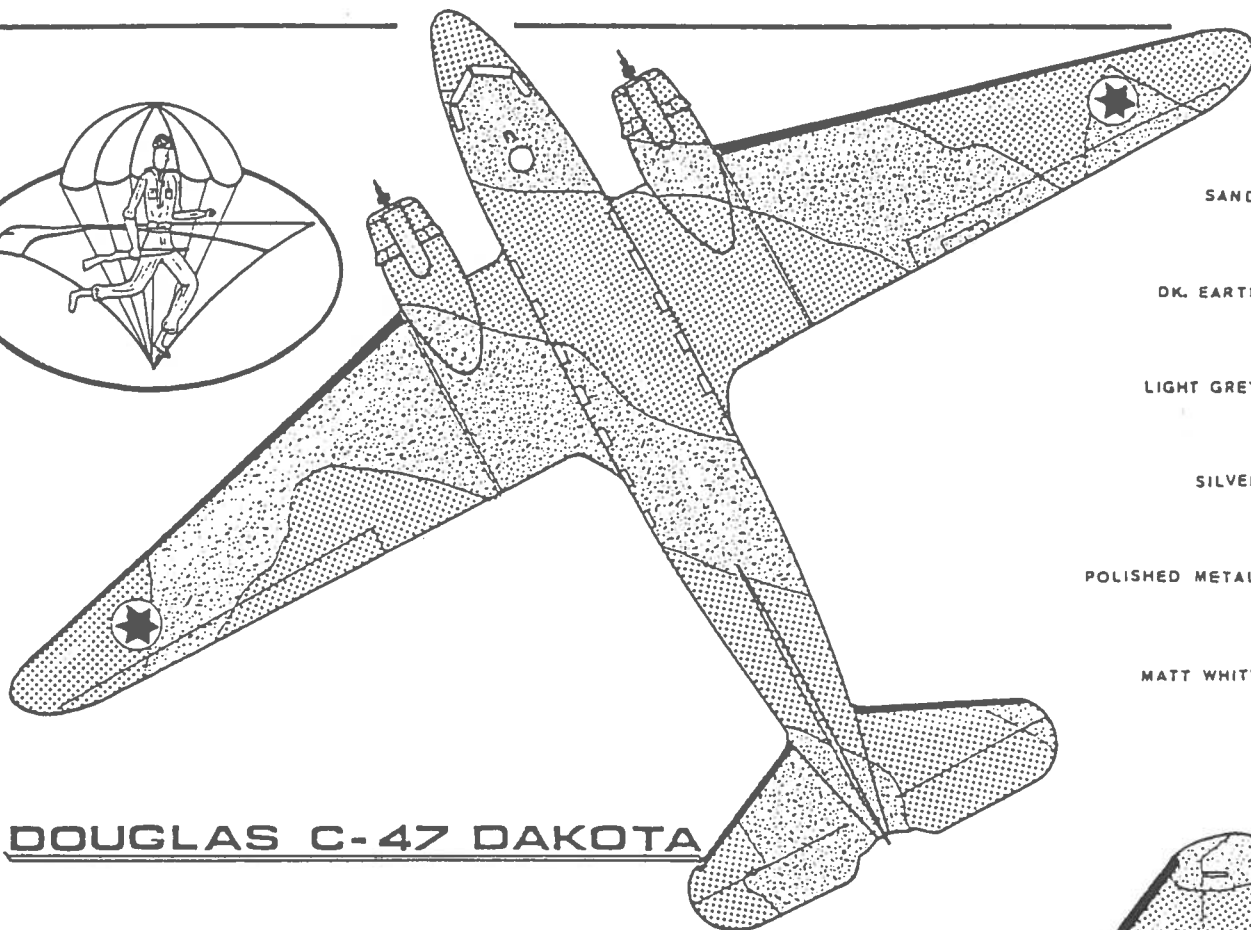
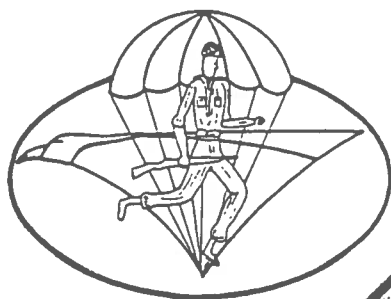
LIGHT GREY UNDERWINGS

BLACK CODE



Reproduced with the kind permission of IPMS-BELGIUM

DRAWINGS BY ERIC HOURANT



SAND

OK. EARTH

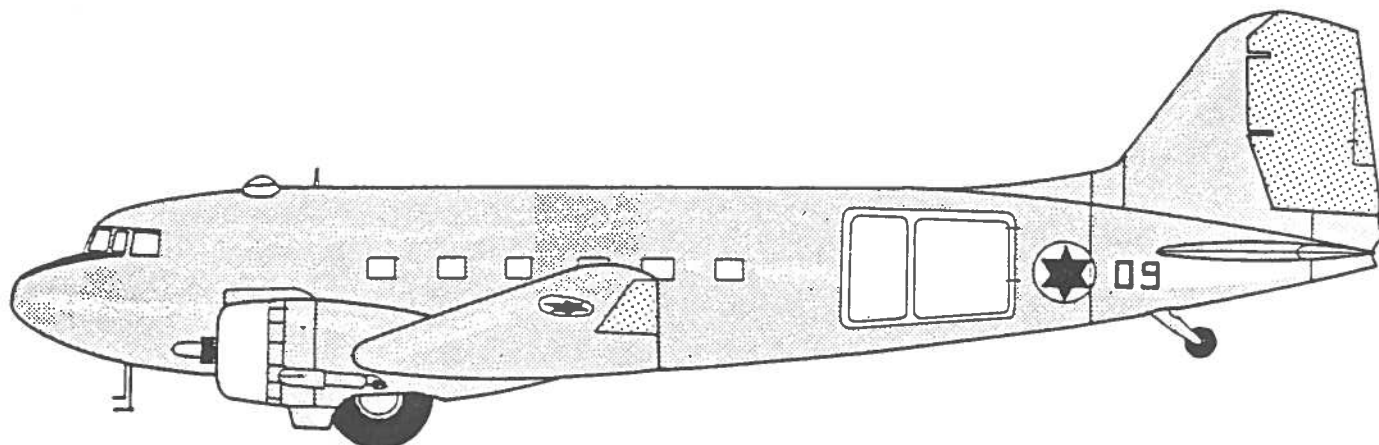
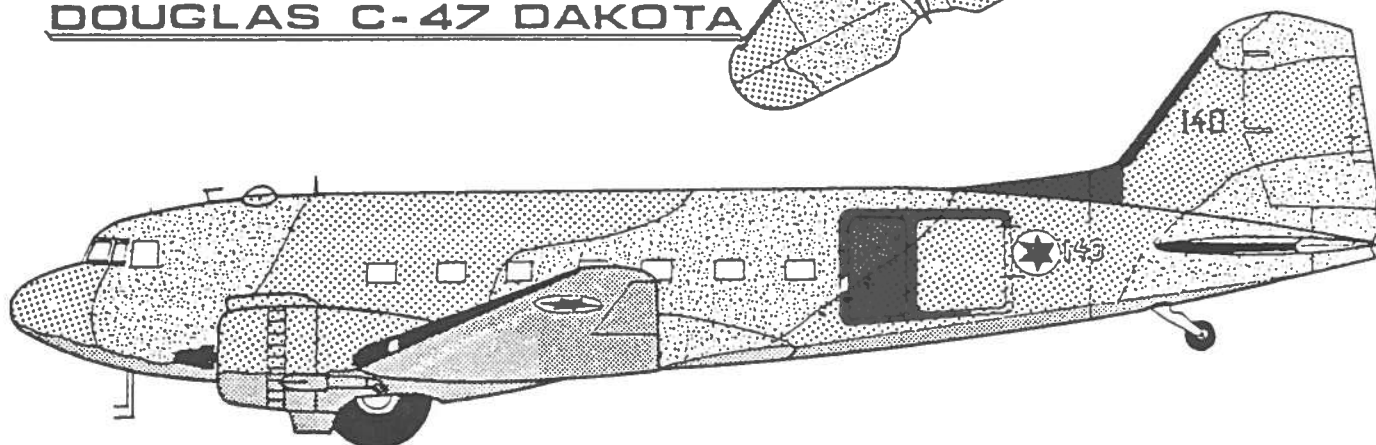
LIGHT GREY

SILVER

POLISHED METAL

MATT WHITE

DOUGLAS C-47 DAKOTA



Reproduced with the kind permission of IPMS-BELGIUM

DRAWINGS BY ERIC HOURANT

LOCKHEED C-130H HERCULES

ISRAELI AIR FORCE / CHEL HA'AVIR,

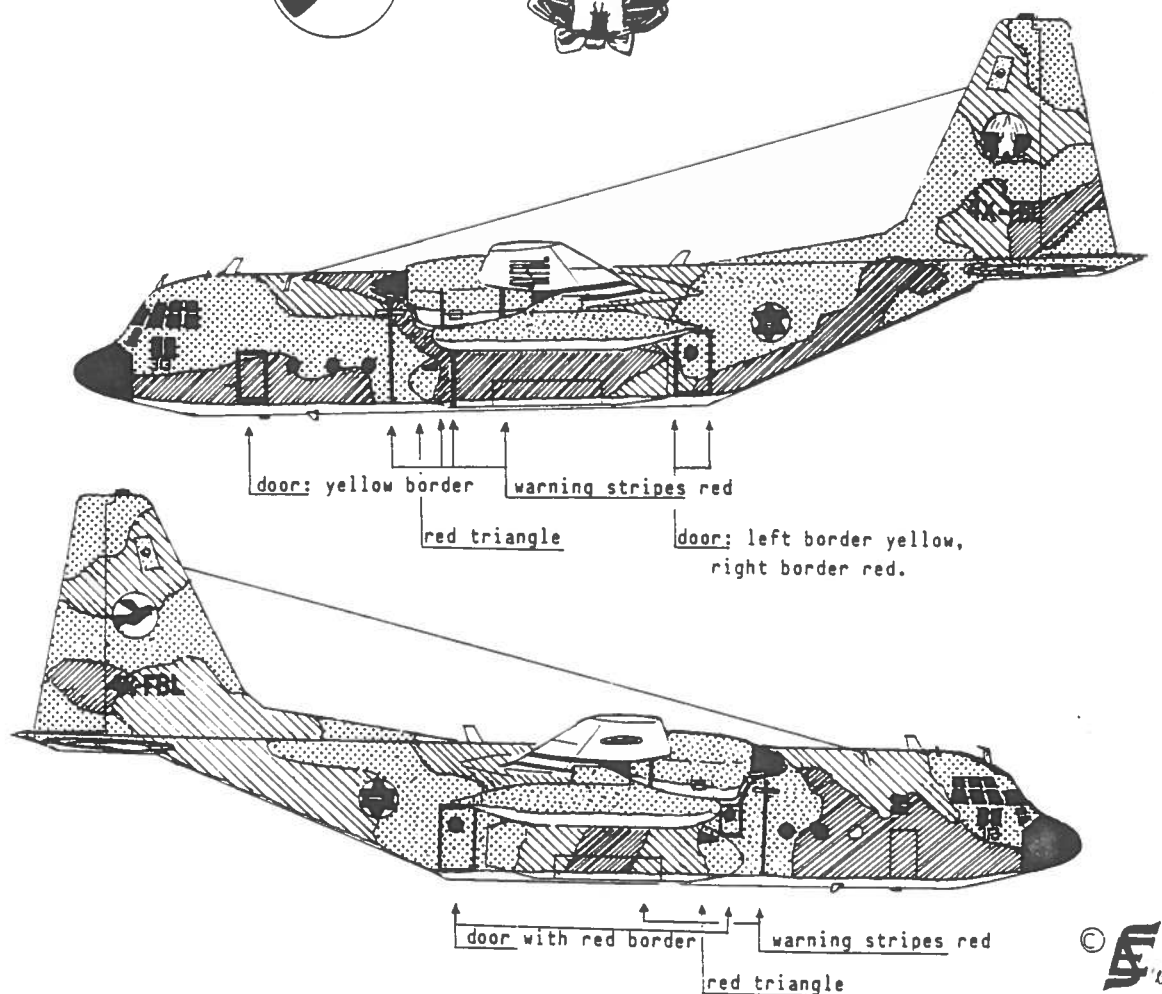
as seen at Elat, November 1984.

4X-FBL = 313 (similar colour scheme: 4X-FBF=301 and 4X-FBI=314)
upper surfaces: light sand/light green/brown; undersurfaces light greyblue
nose, spinners, back part of engines black, as are a/c no. and code.
prop. blades grey, with red-white-red tips. Warning stripes red or yellow.

starbord:
yellow disc,
black bird with
white head.

INSIGNIA:

port:
black disc,
red 'chute, grey
elephant, yellow lines & wreath.



These drawings are published in the IPMS-Austria "Panorama", too.

Erwin Schmidl (SAFCH #579), Gersthofen
Strasse 144/III/22, A-1180 Wien, AUSTRIA